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ABSTRACT

This publication provides a reference for those interested in conducting comparative studies about North Carolina tests. It includes norms tables and other basic statistical information for all state-developed tests (state-mandated and local option tests where baseline data are available) that were administered during the current accountability cycle. The baseline norming year is shown for each test. These statistics are the product of a method that computes percentile ranks across two or more distributions. State-mandated end-of-grade test norms, open-ended assessment norms, and local option end-of-grade test norms are given for tests for grades 3, 4, 5, 6, 7, and 8. Norms are given for the end-of-course (high school) tests in 10 subjects. Norms are also presented for the High School Comprehensive Tests for reading and mathematics at grade 10. A discussion of using test scores for student decisions is included, as is a glossary of testing and other statistical terms. (Contains 44 tests.) (SLD)

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State Norms

for the North Carolina Testing Program

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Introduction

The purpose of this publication is to provide a reference for educators and others interested in conducting comparative studies relative to North Carolina tests. This publication includes norms tables and other basic statistical information for all state-developed tests (state-mandated and local option tests where baseline data are available) that were administered during the current accountability cycle. New tests and revisions of existing tests are made from time to time; therefore, subsequent editions of this publication will include norms and statistical information for new and revised tests as they are implemented.

The North Carolina ABCs Accountability Program requires extensive use of statistics from North Carolina state-mandated tests to monitor the progress of the state's public schools. Each school is measured against itself, and is accountable for having students make reasonable progress based on year-to-year comparisons of test performance. The accountability program uses the core components of the statewide testing program, focusing accountability on the basics. Student improvement is routinely measured by the State Board of Education in reading, writing, and mathematics at the elementary and middle school levels. At the high school level, schools are held accountable in the core subjects required for graduation where state tests have been developed: English I and II; Algebra I and II; Geometry; U.S. History; Economic, Legal, and Political Systems; Physical Science; Biology; Physics; and Chemistry. Statistical information, including norms, for other state-developed tests is included in this document as a reference when using those tests.

Users of this publication are reminded that state-level frequency distributions and other descriptive statistics are generated each year a state-mandated test is administered; however, for baseline comparative purposes, normative statistics are typically established the first year a test is administered, revised, or as designated by the test publisher, North Carolina Department of Public Instruction (NCDPI). The baseline norming year is shown for each test in the List of Contents (on page 3) and at the top of each table.

Several legitimate statistical methods exist whereby norms may be calculated for tests. Each method may produce slightly different (although educationally insignificant) normative scores. The statistics presented here represent the product of the method used by the Public Schools of North Carolina, NCDPI, for the state's testing and accountability programs. This method computes percentile ranks that can be compared across two or more distributions (unlike percentiles). Accordingly, persons using these tables should be able to replicate statistics on file at NCDPI when calculating test averages and percentile rankings locally.

Educators and others interested in using these tables may contact the Regional Accountability Coordinator (RAC), local testing coordinators, or the Division of Accountability Services for additional information on the appropriate uses of these tables. This publication is being revised mainly to include the 1999 norms for NC End-of-Grade Tests in reading and mathematics in grades 3-8.

Acknowledgments

The development of a document that contains a variety of statistical information requires the skill and efforts of many individuals. We thank George Stubblefield for compiling the statistical information; Mildred Bazemore for organization, writing, editing and contributions to the text; and Karen Davis, Linda Althouse, and George Stubblefield for their contributions to the text and statistical information for this document.

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Guides to the Interpretation of Tests:

Using Test Scores for Student Decisions
End-of-Grade Tests - Achievement Levels by Subject and Grade
End-of-Course Tests - Achievement Levels and Scale Scores
North Carolina High School Comprehensive Test - Achievement Levels
Glossary of Testing and Other Statistical Terms

Norms and Interpolation Tables:

State-Mandated End-of-Grade Tests	Current Norm Year	Original Norm Year
Grade 3 Pretests/Reading and Mathematics	1996	1996
Grades 3-8 Reading	1999	1993
Grades 3-8 Mathematics	1999	1993
Open-Ended Assessments/Reading and Mathematics Grade 8	1997	1997
Local Option End-of-Grade Tests		
Grades 3-8 Social Studies	1994	1994
Grades 3-8 Science	1996	1996
French Forms A and B	1992	1992
Spanish Forms A and B	1992	1992
State-Mandated End-of-Course Tests		
Algebra I	1994	1987
Biology	1995	1987
Economic, Legal, & Political Systems	1997	1991
English I	1995	1990
U.S. History	1995	1988
Algebra II	1997	1988
Chemistry	1997	1989
Geometry	1997	1989
Physical Science	1997	1991
Physics	1997	1990
North Carolina High School Comprehensive Test	1998	1998

State-Mandated End-of-Grade Tests

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End-of-Grade Tests

Historical Information. North Carolina end-of-grade tests were initiated in response to legislation passed in 1989 by the North Carolina General Assembly. North Carolina end-of-grade tests were developed by the North Carolina Department of Public Instruction with technical support from the L.L. Thurstone Psychometric Laboratory at The University of North Carolina at Chapel Hill and the North Carolina Technical Advisory Group. The tests were developed for use as curriculum-based achievement tests to measure the acquisition of specific subject-area content and skills associated with a particular grade in school.

Based on the 1989 legislation, North Carolina end-of-grade tests were developed for two purposes:

- To provide accurate measurement of individual student skills and knowledge specified in the North Carolina *Standard Course of Study*, and

- To provide accurate measurement of the knowledge and skills attained by groups of students for school, school system, and state accountability.

End-of-grade tests are designed to measure higher level thinking skills. When properly administered and interpreted, these test results provide an independent, uniform source of reliable and valid information that enables:

- Students to know the extent to which they have mastered expected knowledge and skills and how they compare to others;

- Parents to know if their children are acquiring the knowledge and skills needed to succeed in a highly competitive job market;

- Teachers to know if their students have mastered grade-level knowledge and skills in the curriculum and, if not, what weaknesses need to be addressed;

- Community leaders and lawmakers to know if students in North Carolina schools are improving their performance over; and

- Citizens to objectively assess their return on investment in the public schools.

Scores on the end-of-grade tests are only one of many indicators of the achievement of students. The value of these tests lies primarily in the fact that the scores provide a common standard that is not influenced by local differences in achievement and expectations. The tests provide yardsticks, which can be used to compare the achievement of students, schools, school systems, and the state. The assessment yardstick can be used to measure gains (or losses) in performance across time to see if education improvement efforts at the state and local level are working.

North Carolina end-of-grade tests in reading and mathematics at grades 3-8 were initially normed in 1993. The tests were renormed using the state statistical distribution of scores from the 1998-99 statewide administration.

Scale Scores. Raw scores are converted to scale scores on the end-of-grade tests. Developmental scale scores allow the different forms of the test to be equated, so that a developmental scale score of 150 in reading on Form A represents the same level of achievement as a developmental scale score of 150 in reading on Form B, even though the raw scores may be slightly different.

The reading, mathematics, and science tests are reported on developmental scales, which yield rulers to measure growth in these subject areas across time. Just like height in inches, on average, student scores are expected to go up every year. Also like height, the rate of growth is somewhat faster in the earlier grades than in later grades. Social studies scores are not reported on a developmental scale because the specific content covered at each grade is different.

Developmental scale scores on end-of-grade tests can be used to chart the average educational growth of students as they progress through the grades. Given the way the scales were developed, the differences in mathematics scores between grades in 1992-93 can provide a standard for comparing average growth across grade levels for the future, e.g., between where students were at the end of the third grade versus where they are at the end of the fourth grade. This *anticipated growth* varies from grade level to grade level and from subject to subject. Each year test results can be used to chart the *actual growth* of students from grade level to grade level within a subject. Schools and school systems may use the developmental scale scores to compare their own mean scale scores to the state average to evaluate the performance of their students. Scale scores can be averaged and relative comparisons made within each subject and across groups including schools and school systems.

It is not appropriate to compare developmental scale scores across subjects (i.e., mathematics vs. reading) because the typical growth across grades for each subject is different. It is appropriate to compare scale scores within subjects and types of tests (i.e., open-ended and multiple-choice) across years.

Achievement Levels. Achievement levels allow the comparison of student and group performance to standards based on what is expected in each subject at each grade level. Achievement levels were determined by relating the judgments of thousands of North Carolina teachers concerning the performance of each of their students to each student's performance (Contrasting Groups Method) on the end-of-grade multiple-choice tests. The four levels are:

Level I: Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level.

Level II: Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level.

Level III: Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level.

Level IV: Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.

Each achievement level corresponds to a range of scale scores for each subject and grade level. The scale score ranges for each subject and grade are presented below.

Ranges for Achievement Levels by Subject and Grade
Grades 3-8

Reading and Mathematics Scale Scores

Subject/Grade		Level I	Level II	Level III	Level IV
Reading	PT3	119-127	128-132	133-144	145-162
	3	115-130	131-140	141-150	151-172
	4	119-134	135-144	145-155	156-174
	5	124-138	139-148	149-158	159-178
	6	128-140	141-151	152-161	162-180
	7	130-144	145-154	155-163	164-183
	8	132-144	145-155	156-165	166-184
Mathematics	PT3	105-117	118-125	126-134	135-154
	3	98-124	125-137	138-149	150-173
	4	111-131	132-142	143-155	156-182
	5	117-140	141-149	150-160	161-188
	6	130-145	146-154	155-167	168-196
	7	134-151	152-160	161-172	173-203
	8	137-154	155-164	165-177	178-208

Science Scale Scores

Grade	Level I	Level II	Level III	Level IV
3	119-132	133-143	144-155	156-180
4	122-136	137-147	148-159	160-182
5	128-141	142-150	151-161	162-187
6	130-141	142-151	152-161	162-188
7	134-145	146-153	154-164	165-189
8	134-145	146-154	155-166	167-190

Social Studies Scale Scores

Grade	Level I	Level II	Level III	Level IV
3	25-40	41-50	51-60	61-79
4	26-41	42-50	51-61	62-85
5	25-41	42-51	52-62	63-85
6	29-39	40-49	50-59	60-85
7	26-40	41-49	50-60	61-85
8	28-39	40-48	49-58	59-86

North Carolina Writing Assessment at Grades 4 and 7

Writing	Level I	Level II	Level III	Level IV
4 & 7	0.0 - 1.0	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0

North Carolina Open-Ended Assessments

Grade	Level I	Level II	Level III	Level IV
4*	—	—	—	—
8	23-37	38-47	48-59	60-85

*Achievement levels for the grade 4 North Carolina Open-Ended Assessment have not yet been established.

NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 3 PRETEST READING -- 1996

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	94,551	High Score	160
		Low Score	119
Mean	137.8	1996 State Percentiles	Scale Score
Standard Deviation	8.6	90	149.7
		75	144.8
		50 (Median)	137.4
Variance	73.8	25	130.1
		10	127.3

FREQUENCY DISTRIBUTION

Developmental Scale	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
160	1	94551	0.0	100.0	99
159	0	94550	0.0	100.0	99
158	281	94550	0.3	100.0	99
157	436	94269	0.5	99.7	99
156	738	93833	0.8	99.2	99
155	1089	93095	1.2	98.5	98
154	372	92006	0.4	97.3	97
153	1929	91634	2.0	96.9	96
152	1956	89705	2.1	94.9	94
151	1592	87749	1.7	92.8	92
150	1413	86157	1.5	91.1	90
149	3437	84744	3.6	89.6	88
148	2348	81307	2.5	86.0	85
147	1681	78959	1.8	83.5	83
146	4258	77278	4.5	81.7	79
145	2886	73020	3.1	77.2	76
144	1698	70134	1.8	74.2	73
143	4858	68436	5.1	72.4	70
142	3404	63578	3.6	67.2	65
141	3617	60174	3.8	63.6	62
140	1514	56557	1.6	59.8	59
139	3777	55043	4.0	58.2	56
138	3822	51266	4.0	54.2	52
137	1560	47444	1.7	50.2	49
136	3893	45884	4.1	48.5	46
135	3719	41991	3.9	44.4	42
134	1688	38272	1.8	40.5	40
133	3758	36584	4.0	38.7	37
132	1891	32826	2.0	34.7	34
131	5628	30935	6.0	32.7	30
130	3745	25307	4.0	26.8	25
129	5661	21562	6.0	22.8	20
128	5231	15901	5.5	16.8	14
127	5740	10670	6.1	11.3	8
126	2722	4930	2.9	5.2	4
125	437	2208	0.5	2.3	2
124	864	1771	0.9	1.9	1
123	501	907	0.5	1.0	1
LESS THAN 123	406	406	0.4	0.4	1

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NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 3 PRETEST MATHEMATICS -- 1996

STATE SUMMARY STATISTICS

Number of Students with Valid Scores	94,846	High Score	154
Mean	130.0	Low Score	105
Standard Deviation	8.1	1996 State Percentiles	Scale Score
Variance	65.5	90	140.7
		75	135.7
		50 (Median)	130.0
		25	124.1
		10	119.3

FREQUENCY DISTRIBUTION

Developmental Scale	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
154	6	94846	0.0	100.0	99
153	38	94840	0.0	100.0	99
152	9	94802	0.0	100.0	99
151	187	94793	0.2	99.9	99
150	28	94606	0.0	99.8	99
149	471	94578	0.5	99.7	99
148	49	94107	0.1	99.2	99
147	907	94058	1.0	99.2	99
146	399	93151	0.4	98.2	98
145	1030	92752	1.1	97.8	97
144	1781	91722	1.9	96.7	96
143	1405	89941	1.5	94.8	94
142	1669	88536	1.8	93.4	92
141	1864	86867	2.0	91.6	91
140	2800	85003	3.0	89.6	88
139	1884	82203	2.0	86.7	86
138	3246	80319	3.4	84.7	83
137	3326	77073	3.5	81.3	80
136	3447	73747	3.6	77.8	76
135	3624	70300	3.8	74.1	72
134	3787	66676	4.0	70.3	68
133	3832	62889	4.0	66.3	64
132	5101	59057	5.4	62.3	60
131	4242	53956	4.5	56.9	55
130	4297	49714	4.5	52.4	50
129	4386	45417	4.6	47.9	46
128	4339	41031	4.8	43.3	41
127	4325	36692	4.6	38.7	36
126	4180	32367	4.4	34.1	32
125	2606	28187	2.8	29.7	28
124	4164	25581	4.4	27.0	25
123	3791	21417	4.0	22.6	21
122	2397	17626	2.5	18.9	17
121	3242	15229	3.4	16.1	14
120	2092	11987	2.2	12.6	12
119	2519	9895	2.7	10.4	9
118	1514	7376	1.6	7.8	7
117	1276	5862	1.4	6.2	6
116	1473	4586	1.6	4.8	4
115	807	3113	0.9	3.3	3
114	545	2306	0.6	2.4	2
113	622	1761	0.7	1.9	2
112	382	1139	0.4	1.2	1
111	199	757	0.2	0.8	1
LESS THAN 111	558	558	0.6	0.6	1

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 3 READING --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	101,525	HIGH SCORE	172
		LOW SCORE	114
MEAN	146.4	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	9.7	90	158.30
		75	153.61
		50 (MEDIAN)	147.19
VARIANCE	94.2	25	139.90
		10	132.58

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
172	27	100525	0.03	100.00	99
171	37	100498	0.04	99.97	99
170	48	100461	0.05	99.94	99
169	72	100413	0.07	99.89	99
168	167	100341	0.17	99.82	99
167	133	100174	0.13	99.65	99
166	612	100041	0.61	99.52	99
165	241	99429	0.24	98.91	99
164	1108	99188	1.10	98.67	98
163	362	98080	0.36	97.57	97
162	2073	97718	2.06	97.21	96
160	2738	95645	2.72	95.15	94
159	2070	92907	2.06	92.42	91
158	1848	90837	1.84	90.36	89
157	3361	88989	3.34	88.52	87
156	3543	85628	3.52	85.18	83
155	3512	82085	3.49	81.66	80
154	3566	78573	3.55	78.16	76
153	3522	75007	3.50	74.62	73
152	3505	71485	3.49	71.11	69
151	4578	67980	4.55	67.62	65
150	5471	63402	5.44	63.07	60
149	3147	57931	3.13	57.63	56
148	2986	54784	2.97	54.50	53
147	4909	51798	4.88	51.53	49
146	2863	46889	2.85	46.64	45
145	4654	44026	4.63	43.80	41
144	3518	39372	3.50	39.17	37
143	3248	35854	3.23	35.67	34
142	3330	32606	3.31	32.44	31
141	2771	29276	2.76	29.12	28
140	2283	26505	2.27	26.37	25
139	2793	24222	2.78	24.10	23
138	2535	21429	2.52	21.32	20
137	1879	18894	1.87	18.80	18
136	1892	17015	1.88	16.93	16
135	1851	15123	1.84	15.04	14
134	1727	13272	1.72	13.20	12
133	1626	11545	1.62	11.48	11
132	1565	9919	1.56	9.87	9
131	1454	8354	1.45	8.31	8
130	1364	6900	1.36	6.86	6
129	410	5536	0.41	5.51	5
128	796	5126	0.79	5.10	5
127	1079	4330	1.07	4.31	4
126	937	3251	0.93	3.23	3
125	909	2314	0.90	2.30	2
124	511	1405	0.51	1.40	1
123	351	894	0.35	0.89	1
122	247	543	0.25	0.54	1
LESS THAN 122	296	296	0.29	0.29	1

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 3 MATHEMATICS --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	101,021	HIGH SCORE	173
		LOW SCORE	100
MEAN	142.9	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	11.1	90	156.44
		75	150.95
		50 (MEDIAN)	143.59
VARIANCE	123.7	25	135.59
		10	127.55

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
173	53	101021	0.05	100.00	99
171	147	100968	0.15	99.95	99
170	129	100821	0.13	99.80	99
168	360	100692	0.36	99.67	99
167	260	100332	0.26	99.32	99
165	640	100072	0.63	99.06	99
164	379	99432	0.38	98.43	98
162	1415	99053	1.40	98.05	97
161	1275	97638	1.26	96.65	96
160	648	96363	0.64	95.39	95
159	2214	95715	2.19	94.75	94
157	2431	93501	2.41	92.56	91
156	2464	91070	2.44	90.15	89
155	2790	88606	2.76	87.71	86
154	2842	85816	2.81	84.95	84
153	2046	82974	2.03	82.14	81
152	2955	80928	2.93	80.11	79
151	4049	77973	4.01	77.18	75
150	3015	73924	2.98	73.18	72
149	2850	70909	2.82	70.19	69
148	2993	68059	2.96	67.37	66
147	3795	65066	3.76	64.41	63
146	3855	61271	3.82	60.65	59
145	3654	57416	3.62	56.84	55
144	3572	53762	3.54	53.22	51
143	3267	50190	3.23	49.68	48
142	3947	46923	3.91	46.45	44
141	2980	42976	2.95	42.54	41
140	3630	39996	3.59	39.59	38
139	3440	36366	3.41	36.00	34
138	2620	32926	2.59	32.59	31
137	2988	30306	2.96	30.00	29
136	2277	27318	2.25	27.04	26
135	2777	25041	2.75	24.79	23
134	2021	22264	2.00	22.04	21
133	2390	20243	2.37	20.04	19
132	1895	17853	1.88	17.67	17
131	1653	15958	1.64	15.80	15
130	1630	14305	1.61	14.16	13
129	1548	12675	1.53	12.55	12
128	1077	11127	1.07	11.01	10
127	1685	10050	1.67	9.95	9
126	1231	8365	1.22	8.28	8
125	810	7134	0.80	7.06	7
124	758	6324	0.75	6.26	6
123	970	5566	0.96	5.51	5
122	682	4596	0.68	4.55	4
121	573	3914	0.57	3.87	4
120	671	3341	0.66	3.31	3
119	436	2670	0.43	2.64	2
118	460	2234	0.46	2.21	2
117	360	1774	0.36	1.76	2
116	312	1414	0.31	1.40	1
115	262	1102	0.26	1.09	1
LESS THAN 115	840	840	0.83	0.83	1

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 4 READING --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	97,911	HIGH SCORE	176
		LOW SCORE	119
MEAN	149.5	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	9.4	90	161.18
		75	156.14
		50 (MEDIAN)	150.32
VARIANCE	87.9	25	143.19
		10	136.11

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
176	12	97911	0.01	100.00	99
175	10	97899	0.01	99.99	99
174	25	97889	0.03	99.98	99
173	66	97864	0.07	99.95	99
172	52	97798	0.05	99.88	99
171	258	97746	0.26	99.83	99
170	146	97488	0.15	99.57	99
169	489	97342	0.50	99.42	99
168	286	96853	0.29	98.92	99
167	728	96567	0.74	98.63	98
166	902	95839	0.92	97.88	97
165	524	94937	0.54	96.96	97
164	1766	94413	1.80	96.43	96
163	1331	92647	1.36	94.62	94
162	2373	91316	2.42	93.26	92
161	2539	88943	2.59	90.84	90
160	2729	86404	2.79	88.25	87
159	2893	83675	2.95	85.46	84
158	2952	80782	3.01	82.51	81
157	2948	77830	3.01	79.49	78
156	4012	74882	4.10	76.48	74
155	4041	70870	4.13	72.38	70
154	3798	66829	3.88	68.25	66
153	4864	63031	4.97	64.38	62
152	3796	58167	3.88	59.41	57
151	4611	54371	4.71	55.53	53
150	4388	49760	4.48	50.82	49
149	3214	45372	3.28	46.34	45
148	3887	42158	3.97	43.06	41
147	4286	38271	4.38	39.09	37
146	2688	33985	2.75	34.71	33
145	3307	31297	3.38	31.96	30
144	2435	27990	2.49	28.59	27
143	3429	25555	3.50	26.10	24
142	1647	22126	1.68	22.60	22
141	3087	20479	3.15	20.92	19
140	1466	17392	1.50	17.76	17
139	2011	15926	2.05	16.27	15
138	2265	13915	2.31	14.21	13
137	1348	11650	1.38	11.90	11
136	1298	10302	1.33	10.52	10
135	1750	9004	1.79	9.20	8
134	1200	7254	1.23	7.41	7
133	1151	6054	1.18	6.18	6
132	1053	4903	1.08	5.01	4
131	940	3850	0.96	3.93	3
130	785	2910	0.80	2.97	3
129	664	2125	0.68	2.17	2
128	485	1461	0.50	1.49	1
LESS THAN 128	976	976	1.00	1.00	1

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 4 MATHEMATICS --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	98,391	HIGH SCORE	182
		LOW SCORE	112
MEAN	152.2	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.3	90	165.44
		75	159.85
		50 (MEDIAN)	152.88
VARIANCE	106.4	25	145.29
		10	138.17

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
182	6	98391	0.01	100.00	99
181	28	98385	0.03	99.99	99
180	30	98357	0.03	99.97	99
178	82	98327	0.08	99.93	99
177	138	98245	0.14	99.85	99
176	157	98107	0.16	99.71	99
175	162	97950	0.16	99.55	99
174	441	97788	0.45	99.39	99
173	258	97347	0.26	98.94	99
172	622	97089	0.63	98.68	98
171	733	96467	0.74	98.04	98
170	920	95734	0.94	97.30	97
169	429	94814	0.44	96.36	96
168	1686	94385	1.71	95.93	95
167	1925	92699	1.96	94.21	93
166	2140	90774	2.17	92.26	91
165	1337	88634	1.36	90.08	89
164	2366	87297	2.40	88.72	88
163	2401	84931	2.44	86.32	85
162	2561	82530	2.60	83.88	83
161	3310	79969	3.36	81.28	80
160	4384	76659	4.46	77.91	76
159	2683	72275	2.73	73.46	72
158	3459	69592	3.52	70.73	69
157	3391	66133	3.45	67.21	65
156	3340	62742	3.39	63.77	62
155	4221	59402	4.29	60.37	58
154	4069	55181	4.14	56.08	54
153	3108	51112	3.16	51.95	50
152	3802	48004	3.86	48.79	47
151	2935	44202	2.98	44.92	43
150	4328	41267	4.40	41.94	40
149	2020	36939	2.05	37.54	37
148	4043	34919	4.11	35.49	33
147	3134	30876	3.19	31.38	30
146	2391	27742	2.43	28.20	27
145	3580	25351	3.64	25.77	24
144	1664	21771	1.69	22.13	21
143	3048	20107	3.10	20.44	19
142	1431	17059	1.45	17.34	17
141	2319	15628	2.36	15.88	15
140	1807	13309	1.84	13.53	13
139	1189	11502	1.21	11.69	11
138	1445	10313	1.47	10.48	10
137	1389	8868	1.41	9.01	8
136	925	7479	0.94	7.60	7
135	1212	6554	1.23	6.66	6
134	1083	5342	1.10	5.43	5
133	722	4259	0.73	4.33	4
132	644	3537	0.65	3.59	3
131	568	2893	0.58	2.94	3
130	487	2325	0.49	2.36	2
129	376	1838	0.38	1.87	2

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 4 MATHEMATICS --- 1999

FREQUENCY DISTRIBUTION (CONTINUED)

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
128	355	1462	0.36	1.49	1
127	289	1107	0.29	1.13	1
126	224	818	0.23	0.83	1
125	203	594	0.21	0.60	1
124	137	391	0.14	0.40	1
123	126	254	0.13	0.26	1
122	43	128	0.04	0.13	1
LESS THAN 122	85	85	0.09	0.09	1

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 5 READING --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	94,801	HIGH SCORE	178
		LOW SCORE	126
MEAN	154.3	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	8.5	90	164.61
		75	160.50
		50 (MEDIAN)	155.13
VARIANCE	72.5	25	148.77
		10	142.31

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
178	28	94801	0.03	100.00	99
176	95	94773	0.10	99.97	99
175	71	94678	0.07	99.87	99
173	477	94607	0.50	99.80	99
171	903	94130	0.95	99.29	99
169	1376	93227	1.45	98.34	98
168	1152	91851	1.22	96.89	96
167	1453	90699	1.53	95.67	95
166	1614	89246	1.70	94.14	93
165	2587	87632	2.73	92.44	91
164	2896	85045	3.05	89.71	88
163	3001	82149	3.17	86.65	85
162	4986	79148	5.26	83.49	81
161	3062	74162	3.23	78.23	77
160	4114	71100	4.34	75.00	73
159	3222	66986	3.40	70.66	69
158	6047	63764	6.38	67.26	64
157	3000	57717	3.16	60.88	59
156	5707	54717	6.02	57.72	55
155	4319	49010	4.56	51.70	49
154	4142	44691	4.37	47.14	45
153	3917	40549	4.13	42.77	41
152	4342	36632	4.58	38.64	36
151	3415	32290	3.60	34.06	32
150	3140	28875	3.31	30.46	29
149	2793	25735	2.95	27.15	26
148	3344	22942	3.53	24.20	22
147	2502	19598	2.64	20.67	19
146	1986	17096	2.09	18.03	17
145	2174	15110	2.29	15.94	15
144	1692	12936	1.78	13.65	13
143	1537	11244	1.62	11.86	11
142	1196	9707	1.26	10.24	10
141	1437	8511	1.52	8.98	8
140	1387	7074	1.46	7.46	7
139	997	5687	1.05	6.00	5
138	896	4690	0.95	4.95	4
137	801	3794	0.84	4.00	4
136	720	2993	0.76	3.16	3
135	634	2273	0.67	2.40	2
134	670	1639	0.71	1.73	1
133	413	969	0.44	1.02	1
LESS THAN 133	556	556	0.59	0.59	1

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 5 MATHEMATICS --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	95,258	HIGH SCORE	185
		LOW SCORE	123
MEAN	159.2	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.0	90	171.98
		75	166.38
VARIANCE	100.9	50 (MEDIAN)	159.64
		25	152.47
		10	145.41

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
185	43	95258	0.05	100.00	99
184	142	95215	0.15	99.95	99
183	181	95073	0.19	99.81	99
182	373	94892	0.39	99.62	99
181	114	94519	0.12	99.22	99
180	524	94405	0.55	99.10	99
179	514	93881	0.54	98.55	98
178	606	93367	0.64	98.01	98
177	753	92761	0.79	97.38	97
176	1210	92008	1.27	96.59	96
175	1349	90798	1.42	95.32	95
174	950	89449	1.00	93.90	93
173	1592	88499	1.67	92.90	92
172	2256	86907	2.37	91.23	90
171	1801	84651	1.89	88.86	88
170	2549	82850	2.68	86.97	86
169	2597	80301	2.73	84.30	83
168	2601	77704	2.73	81.57	80
167	3339	75103	3.51	78.84	77
166	2737	71764	2.87	75.34	74
165	4032	69027	4.23	72.46	70
164	3504	64995	3.68	68.23	66
163	3383	61491	3.55	64.55	63
162	4134	58108	4.34	61.00	59
161	3429	53974	3.60	56.66	55
160	3403	50545	3.57	53.06	51
159	3384	47142	3.55	49.49	48
158	4026	43758	4.23	45.94	44
157	3966	39732	4.16	41.71	40
156	2575	35766	2.70	37.55	36
155	3872	33191	4.06	34.84	33
154	3079	29319	3.23	30.78	29
153	2317	26240	2.43	27.55	26
152	3463	23923	3.64	25.11	23
151	1660	20460	1.74	21.48	21
150	2073	18800	2.18	19.74	19
149	2688	16727	2.82	17.56	16
148	1819	14039	1.91	14.74	14
147	1325	12220	1.39	12.83	12
146	1261	10895	1.32	11.44	11
145	1192	9634	1.25	10.11	9
144	1510	8442	1.59	8.86	8
143	1353	6932	1.42	7.28	7
142	878	5579	0.92	5.86	5
141	1069	4701	1.12	4.94	4
140	670	3632	0.70	3.81	3
139	647	2962	0.68	3.11	3
138	537	2315	0.56	2.43	2
137	405	1778	0.43	1.87	2
136	366	1373	0.38	1.44	1
135	320	1007	0.34	1.06	1
134	238	687	0.25	0.72	1
133	195	449	0.20	0.47	1
LESS THAN 133	254	254	0.27	0.27	1

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 6 READING --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	93,589	HIGH SCORE	183
		LOW SCORE	124
MEAN	156.7	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	9.3	90	168.27
		75	163.53
		50 (MEDIAN)	157.37
VARIANCE	86.8	25	150.79
		10	143.48

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
183	15	93589	0.02	100.00	99
180	131	93574	0.14	99.98	99
178	148	93443	0.16	99.84	99
177	232	93295	0.25	99.69	99
176	273	93063	0.29	99.44	99
175	259	92790	0.28	99.15	99
174	691	92531	0.74	98.87	99
173	918	91840	0.98	98.13	98
172	435	90922	0.46	97.15	97
171	1842	90487	1.97	96.69	96
170	1420	88645	1.52	94.72	94
169	2357	87225	2.52	93.20	92
168	2722	84868	2.91	90.68	89
167	1790	82146	1.91	87.77	87
166	3049	80356	3.26	85.86	84
165	4149	77307	4.43	82.60	80
164	3044	73158	3.25	78.17	77
163	3103	70114	3.32	74.92	73
162	4023	67011	4.30	71.60	69
161	3970	62988	4.24	67.30	65
160	4631	59018	4.95	63.06	61
159	4392	54387	4.69	58.11	56
158	2583	49995	2.76	53.42	52
157	4939	47412	5.28	50.66	48
156	3839	42473	4.10	45.38	43
155	3536	38634	3.78	41.28	39
154	3521	35098	3.76	37.50	36
153	3262	31577	3.49	33.74	32
152	2435	28315	2.60	30.25	29
151	3508	25880	3.75	27.65	26
150	2155	22372	2.30	23.90	23
149	1997	20217	2.13	21.60	21
148	2555	18220	2.73	19.47	18
147	1864	15665	1.99	16.74	16
146	1337	13801	1.43	14.75	14
145	1327	12464	1.42	13.32	13
144	1745	11137	1.86	11.90	11
143	1468	9392	1.57	10.04	9
142	1071	7924	1.14	8.47	8
141	1361	6853	1.45	7.32	7
140	902	5492	0.96	5.87	5
139	866	4590	0.93	4.90	4
138	805	3724	0.86	3.98	4
137	714	2919	0.76	3.12	3
136	674	2205	0.72	2.36	2
135	432	1531	0.46	1.64	1
134	379	1099	0.40	1.17	1
133	297	720	0.32	0.77	1
LESS THAN 133	423	423	0.45	0.45	1

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 6 MATHEMATICS --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	93,824	HIGH SCORE	196
		LOW SCORE	130
MEAN	164.8	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.9	90	178.74
		75	172.61
		50 (MEDIAN)	165.03
VARIANCE	118.1	25	156.97
		10	149.93

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
196	5	93824	0.01	100.00	99
195	23	93819	0.02	99.99	99
193	49	93796	0.05	99.97	99
192	39	93747	0.04	99.92	99
191	176	93708	0.19	99.88	99
190	87	93532	0.09	99.69	99
189	222	93445	0.24	99.60	99
188	480	93223	0.51	99.36	99
187	405	92743	0.43	98.85	99
186	406	92338	0.43	98.42	98
185	847	91932	0.90	97.98	98
184	963	91085	1.03	97.08	97
183	1017	90122	1.08	96.05	96
182	1111	89105	1.18	94.97	94
181	1207	87994	1.29	93.79	93
180	1270	86787	1.35	92.50	92
179	1406	85517	1.50	91.15	90
178	2369	84111	2.52	89.65	88
177	1897	81742	2.02	87.12	86
176	1964	79845	2.09	85.10	84
175	2713	77881	2.89	83.01	82
174	3305	75168	3.52	80.12	78
173	1672	71863	1.78	76.59	76
172	3332	70191	3.55	74.81	73
171	2807	66859	2.99	71.26	70
170	2936	64052	3.13	68.27	67
169	2437	61116	2.60	65.14	64
168	3615	58679	3.85	62.54	61
167	3129	55064	3.33	58.69	57
166	3193	51935	3.40	55.35	54
165	3927	48742	4.19	51.95	50
164	3376	44815	3.60	47.76	46
163	2718	41439	2.90	44.17	43
162	3323	38721	3.54	41.27	39
161	1955	35398	2.08	37.73	37
160	4021	33443	4.29	35.64	34
159	2009	29422	2.14	31.36	30
158	2637	27413	2.81	29.22	28
157	2496	24776	2.66	26.41	25
156	2655	22280	2.83	23.75	22
155	1903	19625	2.03	20.92	20
154	1864	17722	1.99	18.89	18
153	2321	15858	2.47	16.90	16
152	1643	13537	1.75	14.43	14
151	1600	11894	1.71	12.68	12
150	1591	10294	1.70	10.97	10
149	1484	8703	1.58	9.28	8
148	1252	7219	1.33	7.69	7
147	882	5967	0.94	6.36	6
146	1056	5085	1.13	5.42	5
145	999	4029	1.06	4.29	4
144	790	3030	0.84	3.23	3
143	661	2240	0.70	2.39	2

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 6 MATHEMATICS --- 1999

FREQUENCY DISTRIBUTION (CONTINUED)

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
142	629	1579	0.67	1.68	1
141	416	950	0.44	1.01	1
140	201	534	0.21	0.57	1
139	125	333	0.13	0.35	1
138	97	208	0.10	0.22	1
LESS THAN 138	111	111	0.12	0.12	1

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 7 READING --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	92,021	HIGH SCORE	183
		LOW SCORE	129
MEAN	159.9	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	8.2	90	169.75
		75	165.68
		50 (MEDIAN)	160.89
VARIANCE	67.3	25	155.04
		10	148.28

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
183	13	92021	0.01	100.00	99
181	107	92008	0.12	99.99	99
179	77	91901	0.08	99.87	99
178	261	91824	0.28	99.79	99
176	732	91563	0.80	99.50	99
175	415	90831	0.45	98.71	98
174	898	90416	0.98	98.26	98
173	1078	89518	1.17	97.28	97
172	1285	88440	1.40	96.11	95
171	2300	87155	2.50	94.71	93
170	2709	84855	2.94	92.21	91
169	2920	82146	3.17	89.27	88
168	3171	79226	3.45	86.10	84
167	3383	76055	3.68	82.65	81
166	4481	72672	4.87	78.97	77
165	4452	68191	4.84	74.10	72
164	4305	63739	4.68	69.27	67
163	5212	59434	5.66	64.59	62
162	4952	54222	5.38	58.92	56
161	5371	49270	5.84	53.54	51
160	4103	43899	4.46	47.71	45
159	4595	39796	4.99	43.25	41
158	3390	35201	3.68	38.25	36
157	3990	31811	4.34	34.57	32
156	3556	27821	3.86	30.23	28
155	2737	24265	2.97	26.37	25
154	3143	21528	3.42	23.39	22
153	1918	18385	2.08	19.98	19
152	2260	16467	2.46	17.89	17
151	1966	14207	2.14	15.44	14
150	1628	12241	1.77	13.30	12
149	1117	10613	1.21	11.53	11
148	1310	9496	1.42	10.32	10
147	1276	8186	1.39	8.90	8
146	939	6910	1.02	7.51	7
145	1163	5971	1.26	6.49	6
144	813	4808	0.88	5.22	5
143	731	3995	0.79	4.34	4
142	678	3264	0.74	3.55	3
141	587	2586	0.64	2.81	2
140	742	1999	0.81	2.17	2
139	361	1257	0.39	1.37	1
138	279	896	0.30	0.97	1
LESS THAN 138	617	617	0.67	0.67	1

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 7 MATHEMATICS --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	92,151	HIGH SCORE	203
		LOW SCORE	134
MEAN	170.8	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.6	90	184.66
		75	178.35
		50 (MEDIAN)	171.07
VARIANCE	112.2	25	163.59
		10	156.53

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
203	3	92151	0.00	100.00	99
201	28	92148	0.03	100.00	99
199	14	92120	0.02	99.97	99
198	135	92106	0.15	99.95	99
197	87	91971	0.09	99.80	99
196	187	91884	0.20	99.71	99
195	260	91697	0.28	99.51	99
194	125	91437	0.14	99.23	99
193	503	91312	0.55	99.09	99
192	454	90809	0.49	98.54	98
191	450	90355	0.49	98.05	98
190	847	89905	0.92	97.56	97
189	905	89058	0.98	96.64	96
188	1069	88153	1.16	95.66	95
187	1095	87084	1.19	94.50	94
186	1297	85989	1.41	93.31	93
185	2096	84692	2.27	91.91	91
184	1787	82596	1.94	89.63	89
183	1712	80809	1.86	87.69	87
182	2183	79097	2.37	85.83	85
181	1971	76914	2.14	83.47	82
180	2405	74943	2.61	81.33	80
179	3047	72538	3.31	78.72	77
178	2584	69491	2.80	75.41	74
177	3212	66907	3.49	72.61	71
176	2808	63695	3.05	69.12	68
175	3500	60887	3.80	66.07	64
174	3630	57387	3.94	62.27	60
173	3135	53757	3.40	58.34	57
172	3141	50622	3.41	54.93	53
171	3245	47481	3.52	51.53	50
170	3428	44236	3.72	48.00	46
169	2670	40808	2.90	44.28	43
168	4203	38138	4.56	41.39	39
167	2079	33935	2.26	36.83	36
166	3453	31856	3.75	34.57	33
165	2859	28403	3.10	30.82	29
164	2751	25544	2.99	27.72	26
163	2764	22793	3.00	24.73	23
162	1955	20029	2.12	21.73	21
161	1919	18074	2.08	19.61	19
160	1914	16155	2.08	17.53	16
159	1742	14241	1.89	15.45	15
158	1702	12499	1.85	13.56	13
157	1624	10797	1.76	11.72	11
156	1068	9173	1.16	9.95	9
155	982	8105	1.07	8.80	8
154	1276	7123	1.38	7.73	7
153	1168	5847	1.27	6.35	6
152	1045	4679	1.13	5.08	5
151	878	3634	0.95	3.94	3
150	782	2756	0.85	2.99	3
149	569	1974	0.62	2.14	2

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 7 MATHEMATICS --- 1999

FREQUENCY DISTRIBUTION (CONTINUED)

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
148	457	1405	0.50	1.52	1
147	304	948	0.33	1.03	1
146	273	644	0.30	0.70	1
145	135	371	0.15	0.40	1
LESS THAN 145	236	236	0.26	0.26	1

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 8 READING --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	90,330	HIGH SCORE	187
		LOW SCORE	132
MEAN	162.3	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	8.4	90	172.49
		75	168.12
		50 (MEDIAN)	163.11
VARIANCE	70.0	25	157.14
		10	150.39

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
187	2	90330	0.00	100.00	99
186	12	90328	0.01	100.00	99
185	3	90316	0.00	99.98	99
184	44	90313	0.05	99.98	99
183	22	90269	0.02	99.93	99
182	202	90247	0.22	99.91	99
181	155	90045	0.17	99.68	99
180	280	89890	0.31	99.51	99
179	217	89610	0.24	99.20	99
178	527	89393	0.58	98.96	99
177	1114	88866	1.23	98.38	98
176	434	87752	0.48	97.15	97
175	1585	87318	1.75	96.67	96
174	2029	85733	2.25	94.91	94
173	2369	83704	2.62	92.66	91
172	2643	81335	2.93	90.04	89
171	2781	78692	3.08	87.12	86
170	2969	75911	3.29	84.04	82
169	3173	72942	3.51	80.75	79
168	5341	69769	5.91	77.24	74
167	4256	64428	4.71	71.33	69
166	3086	60172	3.42	66.61	65
165	5222	57086	5.78	63.20	60
164	4931	51864	5.46	57.42	55
163	4534	46933	5.02	51.96	49
162	3542	42399	3.92	46.94	45
161	4884	38857	5.41	43.02	40
160	3675	33973	4.07	37.61	36
159	3408	30298	3.77	33.54	32
158	3233	26890	3.58	29.77	28
157	2973	23657	3.29	26.19	25
156	2561	20684	2.84	22.90	21
155	2877	18123	3.18	20.06	18
154	1353	15246	1.50	16.88	16
153	2430	13893	2.69	15.38	14
152	1130	11463	1.25	12.69	12
151	1083	10333	1.20	11.44	11
150	1972	9250	2.18	10.24	9
149	805	7278	0.89	8.06	8
148	830	6473	0.92	7.17	7
147	815	5643	0.90	6.25	6
146	793	4828	0.88	5.34	5
145	1153	4035	1.28	4.47	4
144	814	2882	0.90	3.19	3
143	506	2068	0.56	2.29	2
142	408	1562	0.45	1.73	2
141	355	1154	0.39	1.28	1
140	445	799	0.49	0.88	1
LESS THAN 140	354	354	0.39	0.39	1

STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 8 MATHEMATICS --- 1999

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	90,396	HIGH SCORE	208
		LOW SCORE	138
MEAN	174.1	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	12.0	90	189.80
		75	182.80
VARIANCE	143.6	50 (MEDIAN)	174.09
		25	165.71
		10	157.70

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
208	26	90396	0.03	100.00	99
207	35	90370	0.04	99.97	99
206	47	90335	0.05	99.93	99
205	75	90288	0.08	99.88	99
204	79	90213	0.09	99.80	99
203	87	90134	0.10	99.71	99
202	191	90047	0.21	99.61	99
201	244	89856	0.27	99.40	99
200	116	89612	0.13	99.13	99
199	484	89496	0.54	99.00	99
198	362	89012	0.40	98.47	98
197	667	88650	0.74	98.07	98
196	769	87983	0.85	97.33	97
195	849	87214	0.94	96.48	96
194	918	86365	1.02	95.54	95
193	999	85447	1.11	94.53	94
192	1095	84448	1.21	93.42	93
191	1133	83353	1.25	92.21	92
190	1229	82220	1.36	90.96	90
189	1695	80991	1.88	89.60	89
188	2147	79296	2.38	87.72	87
187	1282	77149	1.42	85.35	85
186	2814	75867	3.11	83.93	82
185	1437	73053	1.59	80.81	80
184	1971	71616	2.18	79.22	78
183	2640	69645	2.92	77.04	76
182	2144	67005	2.37	74.12	73
181	2802	64861	3.10	71.75	70
180	2184	62059	2.42	68.65	67
179	3585	59875	3.97	66.24	64
178	1749	56290	1.93	62.27	61
177	3019	54541	3.34	60.34	59
176	2507	51522	2.77	57.00	56
175	2469	49015	2.73	54.22	53
174	3292	46546	3.64	51.49	50
173	2585	43254	2.86	47.85	46
172	2728	40669	3.02	44.99	43
171	3406	37941	3.77	41.97	40
170	2070	34535	2.29	38.20	37
169	2172	32465	2.40	35.91	35
168	3397	30293	3.76	33.51	32
167	2743	26896	3.03	29.75	28
166	1975	24153	2.18	26.72	26
165	1913	22178	2.12	24.53	23
164	2063	20265	2.28	22.42	21
163	1779	18202	1.97	20.14	19
162	1817	16423	2.01	18.17	17
161	1836	14606	2.03	16.16	15
160	1698	12770	1.88	14.13	13
159	1632	11072	1.81	12.25	11
158	503	9440	0.56	10.44	10
157	1485	8937	1.64	9.89	9
156	1374	7452	1.52	8.24	7

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

GRADE 8 MATHEMATICS --- 1999

FREQUENCY DISTRIBUTION (CONTINUED)

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1999 STATE PERCENTILE
155	1173	6078	1.30	6.72	6
154	787	4905	0.87	5.43	5
153	981	4118	1.09	4.56	4
152	850	3137	0.94	3.47	3
151	694	2287	0.77	2.53	2
150	521	1593	0.58	1.76	1
149	371	1072	0.41	1.19	1
148	242	701	0.27	0.78	1
147	181	459	0.20	0.51	1
146	105	278	0.12	0.31	1
145	89	173	0.10	0.19	1
144	36	84	0.04	0.09	1
143	19	48	0.02	0.05	1
142	8	29	0.01	0.03	1
141	3	21	0.00	0.02	1
140	5	18	0.01	0.02	1
LESS THAN 140	13	13	0.01	0.01	1

Open-Ended Assessment Norms

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

OPEN-ENDED GRADE 8 READING --- 1996-97

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	86,479	HIGH SCORE	79
		LOW SCORE	12
MEAN	46.8	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.0	90	59.68
		75	53.87
		50 (MEDIAN)	47.84
VARIANCE	100.9	25	40.16
		10	34.84

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
79	27	86479	0.03	100.00	99
78	0	86452	0.00	99.97	99
77	0	86452	0.00	99.97	99
76	0	86452	0.00	99.97	99
75	93	86452	0.11	99.97	99
74	0	86359	0.00	99.86	99
73	0	86359	0.00	99.86	99
72	263	86359	0.30	99.86	99
71	0	86096	0.00	99.56	99
70	0	86096	0.00	99.56	99
69	614	86096	0.71	99.56	99
68	0	85482	0.00	98.85	99
67	0	85482	0.00	98.85	98
66	1306	85482	1.51	98.85	98
65	0	84176	0.00	97.34	98
64	0	84176	0.00	97.34	97
63	2539	84176	2.94	97.34	97
62	0	81637	0.00	94.40	96
61	0	81637	0.00	94.40	95
60	4659	81637	5.39	94.40	94
59	0	76978	0.00	89.01	92
58	0	76978	0.00	89.01	91
57	6737	76978	7.79	89.01	89
56	0	70241	0.00	81.22	86
55	0	70241	0.00	81.22	84
54	8610	70241	9.96	81.22	81
53	0	61631	0.00	71.27	78
52	0	61631	0.00	71.27	74
51	10459	61631	12.09	71.27	71
50	0	51172	0.00	59.17	67
49	0	51172	0.00	59.17	63
48	12079	51172	13.97	59.17	59
47	0	39093	0.00	45.21	56
46	0	39093	0.00	45.21	52
45	0	39093	0.00	45.21	49
44	13146	39093	15.20	45.21	45
43	0	25947	0.00	30.00	41
42	0	25947	0.00	30.00	38
41	0	25947	0.00	30.00	34
40	12875	25947	14.89	30.00	30
39	0	13072	0.00	15.12	27
38	0	13072	0.00	15.12	24
37	0	13072	0.00	15.12	21
36	0	13072	0.00	15.12	18
35	6674	13072	7.72	15.12	15
34	0	6398	0.00	7.40	13
33	0	6398	0.00	7.40	12
32	0	6398	0.00	7.40	10
31	0	6398	0.00	7.40	9
30	3030	6398	3.50	7.40	7

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

OPEN-ENDED GRADE 8 READING --- 1996-97

FREQUENCY DISTRIBUTION (CONTINUED)

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
29	0	3368	0.00	3.89	6
28	0	3368	0.00	3.89	5
27	0	3368	0.00	3.89	5
26	0	3368	0.00	3.89	4
25	1523	3368	1.76	3.89	3
24	0	1845	0.00	2.13	3
23	0	1845	0.00	2.13	3
22	0	1845	0.00	2.13	2
21	845	1845	0.98	2.13	2
20	0	1000	0.00	1.16	2
19	0	1000	0.00	1.16	2
18	0	1000	0.00	1.16	1
17	0	1000	0.00	1.16	1
16	506	1000	0.59	1.16	1
15	0	494	0.00	0.57	1
14	0	494	0.00	0.57	1
13	0	494	0.00	0.57	1
12	494	494	0.57	0.57	1

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STATE NORTH CAROLINA END-OF-GRADE TESTING PROGRAM

OPEN-ENDED GRADE 8 MATHEMATICS --- 1996-97

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	86,479	HIGH SCORE	78
		LOW SCORE	35
MEAN	50.0	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.3	90	64.11
		75	57.00
		50 (MEDIAN)	49.65
VARIANCE	106.1	25	42.28
		10	35.16

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
78	413	86479	0.48	100.00	99
77	0	86066	0.00	99.52	99
76	0	86066	0.00	99.52	99
75	0	86066	0.00	99.52	99
74	784	86066	0.91	99.52	99
73	0	85282	0.00	98.62	99
72	1441	85282	1.67	98.62	98
71	0	83841	0.00	96.95	97
70	0	83841	0.00	96.95	97
69	2073	83841	2.40	96.95	96
68	0	81768	0.00	94.55	95
67	2670	81768	3.09	94.55	94
66	0	79098	0.00	91.46	93
65	0	79098	0.00	91.46	92
64	3269	79098	3.78	91.46	91
63	0	75829	0.00	87.68	89
62	3970	75829	4.59	87.68	87
61	0	71859	0.00	83.09	85
60	4379	71859	5.06	83.09	83
59	0	67480	0.00	78.03	81
58	0	67480	0.00	78.03	80
57	5250	67480	6.07	78.03	78
56	0	62230	0.00	71.96	75
55	5894	62230	6.82	71.96	71
54	0	56336	0.00	65.14	68
53	6670	56336	7.71	65.14	65
52	0	49666	0.00	57.43	62
51	0	49666	0.00	57.43	60
50	7537	49666	8.72	57.43	57
49	0	42129	0.00	48.72	54
48	0	42129	0.00	48.72	51
47	8493	42129	9.82	48.72	48
46	0	33636	0.00	38.89	45
45	0	33636	0.00	38.89	41
44	9641	33636	11.15	38.89	38
43	0	23995	0.00	27.75	33
42	10872	23995	12.57	27.75	27
41	0	13123	0.00	15.17	25
40	0	13123	0.00	15.17	24
39	0	13123	0.00	15.17	22
38	0	13123	0.00	15.17	20
37	0	13123	0.00	15.17	18
36	0	13123	0.00	15.17	17
35	13123	13123	15.17	15.17	15

Local Option Tests Norms

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 3 SCIENCE -- 1996

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	9,305	High Score	177
		Low Score	121
Mean	145.4	1996 State Percentiles	Scale Score
Standard Deviation	9.8	90	158.0
		75	152.7
		50 (Median)	145.7
Variance	95.9	25	138.0
		10	132.2

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
177	1	9305	0.0	100.0	99
176	1	9304	0.0	100.0	99
175	1	9303	0.0	100.0	99
174	2	9302	0.0	100.0	99
173	4	9300	0.0	100.0	99
172	3	9296	0.0	99.9	99
171	10	9293	0.1	99.9	99
169	20	9283	0.2	99.8	99
168	19	9263	0.2	99.6	99
167	20	9244	0.2	99.3	99
166	65	9224	0.7	99.1	99
165	75	9159	0.8	98.4	98
164	34	9084	0.4	97.6	97
163	65	9050	0.7	97.3	97
162	72	8985	0.8	96.6	96
161	144	8913	1.6	95.8	95
160	164	8769	1.8	94.2	93
159	126	8605	1.4	92.5	92
158	206	8479	2.2	91.1	90
157	230	8273	2.5	88.9	88
156	253	8043	2.7	86.4	85
155	302	7790	3.3	83.7	82
154	289	7488	3.1	80.5	79
153	274	7199	2.9	77.4	76
152	339	6925	3.6	74.4	73
151	332	6586	3.6	70.8	69
150	292	6254	3.1	67.2	66
149	393	5962	4.2	64.1	62
148	346	5569	3.7	59.9	58
147	360	5223	3.9	56.1	54
146	253	4863	2.7	52.3	51
145	278	4610	3.0	49.5	48
144	366	4332	3.9	46.6	45
143	215	3966	2.3	42.6	41
142	410	3751	4.4	40.3	38
141	112	3341	1.2	35.9	35
140	434	3229	4.7	34.7	32
139	279	2795	3.0	30.0	29
138	381	2516	4.1	27.0	25
137	116	2135	1.3	22.9	22
136	249	2019	2.7	21.7	20
135	348	1770	3.7	19.0	17
134	104	1422	1.1	15.3	15
133	330	1318	3.6	14.2	12

LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 3 SCIENCE -- 1996
(Continued)

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
132	173	988	1.9	10.6	10
131	149	815	1.6	8.8	8
130	181	666	2.0	7.2	6
129	173	485	1.9	5.2	4
128	128	312	1.4	3.4	3
127	67	184	0.7	2.0	2
126	54	117	0.6	1.3	1
125	41	63	0.4	0.7	1
124	9	22	0.1	0.2	1
123	7	13	0.1	0.1	1
122	3	6	0.0	0.1	1
121	3	3	0.0	0.0	1

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LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 3 SOCIAL STUDIES -- 1994

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	88,208	High Score	79
		Low Score	26
Mean	52.2	1994 State Percentiles	Scale Score
Standard Deviation	9.1	90	63.7
		75	58.5
		50 (Median)	53.0
Variance	82.3	25	46.1
		10	39.0

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
79	17	88208	0.0	100.0	99
78	30	88191	0.0	100.0	99
77	43	88161	0.1	100.0	99
76	55	88118	0.1	99.9	99
75	98	88063	0.1	99.8	99
74	217	87965	0.3	99.7	99
73	196	87748	0.2	99.5	99
72	218	87552	0.3	99.3	99
71	474	87334	0.5	99.0	99
70	329	86860	0.4	98.5	98
69	691	86531	0.8	98.1	98
68	1249	85840	1.4	97.3	97
66	1509	84591	1.7	95.9	95
65	1936	83082	2.2	94.2	93
64	2159	81146	2.5	92.0	91
63	2410	78987	2.7	89.6	88
62	1749	76577	2.0	86.8	86
61	2793	74828	3.2	84.8	83
60	2864	72035	3.3	81.7	80
59	3031	69171	3.4	78.4	77
58	4262	66140	4.8	75.0	73
57	4219	61878	4.8	70.2	68
56	3324	57659	3.8	65.4	63
55	4486	54335	5.1	61.6	59
54	3140	49849	3.6	56.5	55
53	4997	46709	5.7	53.0	50
52	2977	41712	3.4	47.3	46
51	2910	38735	3.3	43.9	42
50	3650	35825	4.1	40.6	39
49	3368	32175	3.8	36.5	35
48	3461	28807	3.9	32.7	31
47	2346	25346	2.7	28.7	27
46	2329	23000	2.6	26.1	25
45	2769	20671	3.1	23.4	22
44	2076	17902	2.4	20.3	19
43	1974	15826	2.2	17.9	17
42	1872	13852	2.1	15.7	15
41	1188	11980	1.4	13.6	13
40	1197	10792	1.4	12.2	12
39	1656	9595	1.9	10.9	10
38	1587	7939	1.8	9.0	8
37	1508	6352	1.7	7.2	6
36	1319	4844	1.5	5.5	5
35	1060	3525	1.2	4.0	3
34	554	2465	0.6	2.8	2
33	692	1911	0.8	2.2	2
32	532	1219	0.6	1.4	1
31	383	687	0.4	0.8	1
30	152	304	0.2	0.3	1
29	119	152	0.1	0.2	1
LESS THAN 29	33	33	0.0	0.0	1

LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 4 SCIENCE -- 1996

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	11,853	High Score	177
		Low Score	126
Mean	149.5	1996 State Percentiles	Scale Score
Standard Deviation	9.1	90	161.5
		75	156.4
		50 (Median)	149.7
Variance	82.1	25	142.3
		10	137.0

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
177	2	11853	0.0	100.0	99
176	3	11851	0.0	100.0	99
175	4	11848	0.0	100.0	99
174	8	11844	0.1	99.9	99
173	8	11836	0.1	99.9	99
172	7	11828	0.1	99.8	99
171	15	11821	0.1	99.7	99
170	35	11806	0.3	99.6	99
169	28	11771	0.2	99.3	99
168	52	11743	0.4	99.1	99
167	122	11691	1.0	98.6	98
166	83	11569	0.7	97.6	97
165	103	11486	0.9	96.9	96
164	190	11383	1.6	96.0	95
163	268	11193	2.3	94.4	93
162	265	10925	2.2	92.2	91
161	305	10660	2.6	89.9	89
160	322	10355	2.7	87.4	86
159	359	10033	3.0	84.7	83
158	369	9674	3.1	81.6	80
157	395	9305	3.3	78.5	77
156	266	8910	2.2	75.2	74
155	414	8644	3.5	72.9	71
154	417	8230	3.5	69.4	68
153	576	7813	4.9	65.9	63
152	465	7237	3.9	61.1	59
151	454	6772	3.8	57.1	55
150	482	6318	4.1	53.3	51
149	471	5836	4.0	49.2	47
148	508	5365	4.3	45.3	43
147	340	4857	2.9	41.0	40
146	351	4517	3.0	38.1	37
145	362	4166	3.1	35.2	34
144	458	3804	3.9	32.1	30
143	311	3346	2.6	28.2	27
142	346	3035	2.9	25.6	24
141	455	2689	3.8	22.7	21
140	478	2234	4.0	18.9	17
139	128	1756	1.1	14.8	14
138	279	1628	2.4	13.7	13
137	351	1349	3.0	11.4	10
136	309	998	2.6	8.4	7
135	155	689	1.3	5.8	5
134	142	534	1.2	4.5	4
133	173	392	1.5	3.3	3
132	98	219	0.8	1.9	1

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 4 SCIENCE -- 1996
(Continued)

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
131	77	121	0.7	1.0	1
130	22	44	0.2	0.4	1
129	9	22	0.1	0.2	1
128	10	13	0.1	0.1	1
127	1	3	0.0	0.0	1
126	2	2	0.0	0.0	1

LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 4 SOCIAL STUDIES -- 1994

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	84,961	High Score	82
		Low Score	27
Mean	52.7	1994 State Percentiles	Scale Score
Standard Deviation	9.0	90	64.2
		75	59.6
		50 (Median)	53.1
Variance	81.5	25	45.9
		10	39.8

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
82	3	84961	0.0	100.0	99
81	4	84958	0.0	100.0	99
80	7	84954	0.0	100.0	99
79	8	84947	0.0	100.0	99
78	20	84939	0.0	100.0	99
77	21	84919	0.0	100.0	99
76	99	84898	0.1	99.9	99
75	47	84799	0.1	99.8	99
74	108	84752	0.1	99.8	99
73	258	84644	0.3	99.6	99
72	331	84386	0.4	99.3	99
71	332	84055	0.4	98.9	99
70	652	83723	0.8	98.5	98
69	815	83071	1.0	97.8	97
68	973	82256	1.2	96.8	96
67	1186	81283	1.4	95.7	95
66	1324	80097	1.6	94.3	93
65	1573	78773	1.9	92.7	92
64	2304	77200	2.71	90.87	90
63	2625	74896	3.09	88.15	87
62	2110	72271	2.48	85.06	84
61	2297	70161	2.70	82.58	81
60	4794	67864	5.64	79.88	77
59	2536	63070	2.98	74.23	73
58	2676	60534	3.15	71.25	70
57	3584	57858	4.22	68.10	66
56	4419	54274	5.20	63.88	61
55	2665	49855	3.14	58.68	57
54	2801	47190	3.30	55.54	54
53	4564	44389	5.37	52.25	50
52	2652	39825	3.12	46.87	45
51	3552	37173	4.18	43.75	42
50	2730	33621	3.21	39.57	38
49	2669	30891	3.14	36.36	35
48	2748	28222	3.23	33.22	32
47	2634	25474	3.10	29.98	28
46	2709	22840	3.19	26.88	25
45	2639	20131	3.11	23.69	22
44	2574	17492	3.03	20.59	19
43	2471	14918	2.91	17.56	16
42	2297	12447	2.70	14.65	13
41	598	10150	0.70	11.95	12
40	1534	9552	1.81	11.24	10
39	1949	8018	2.29	9.44	8
38	1591	6069	1.87	7.14	6
37	1379	4478	1.62	5.27	4
36	1066	3099	1.25	3.65	3

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 4 SOCIAL STUDIES -- 1994
(Continued)

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
35	788	2033	0.93	2.39	2
34	516	1245	0.61	1.47	1
33	474	729	0.56	0.86	1
32	138	255	0.16	0.30	1
LESS THAN 32	117	117	0.14	0.14	1

LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 5 SCIENCE -- 1996

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	16,152	High Score	181
		Low Score	131
Mean	152.8	1996 State Percentiles	Scale Score
Standard Deviation	9.1	90	165.1
		75	159.4
		50 (Median)	152.5
Variance	82.1	25	145.8
		10	141.1

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
181	2	16152	0.0	100.0	99
180	9	16150	0.1	100.0	99
179	4	16141	0.0	99.9	99
178	15	16137	0.1	99.9	99
177	11	16122	0.1	99.8	99
176	25	16111	0.2	99.8	99
175	14	16086	0.1	99.6	99
174	36	16072	0.2	99.5	99
173	62	16036	0.4	99.3	99
172	91	15974	0.6	98.9	99
171	91	15883	0.6	98.3	98
170	157	15792	1.0	97.8	97
169	173	15635	1.1	96.8	96
168	230	15462	1.4	95.7	95
167	251	15232	1.6	94.3	94
166	276	14981	1.7	92.8	92
165	437	14705	2.7	91.0	90
164	334	14268	2.1	88.3	87
163	417	13934	2.6	86.3	85
162	387	13517	2.4	83.7	82
161	423	13130	2.6	81.3	80
160	526	12707	3.3	78.7	77
159	549	12181	3.4	75.4	74
158	536	11632	3.3	72.0	70
157	583	11096	3.6	68.7	67
156	586	10513	3.6	65.1	63
155	594	9927	3.7	61.5	60
154	627	9333	3.9	57.8	56
153	623	8706	3.9	53.9	52
152	676	8083	4.2	50.0	48
151	691	7407	4.3	45.9	44
150	719	6716	4.5	41.6	39
149	475	5997	2.9	37.1	36
148	249	5522	1.5	34.2	33
147	730	5273	4.5	32.7	30
146	686	4543	4.3	28.1	26
145	478	3857	3.0	23.9	22
144	193	3379	1.2	20.9	20
143	684	3186	4.2	19.7	18
142	654	2502	4.1	15.5	13
141	524	1848	3.2	11.4	10
140	277	1324	1.7	8.2	7
139	371	1047	2.3	6.5	5
138	171	676	1.1	4.2	4

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LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 5 SCIENCE -- 1996

(Continued)

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
137	178	505	1.1	3.1	3
136	161	327	1.0	2.0	2
135	105	166	0.7	1.0	1
134	38	61	0.2	0.4	1
133	14	23	0.1	0.1	1
132	7	9	0.0	0.1	1
131	2	2	0.0	0.0	1

LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 5 SOCIAL STUDIES -- 1994

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	85,268	High Score	83
		Low Score	28
Mean	52.7	1994 State Percentiles	Scale Score
Standard Deviation	8.9	90	64.0
		75	59.3
		50 (Median)	53.0
Variance	79.1	25	45.8
		10	40.7

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
83	1	85268	0.0	100.0	99
82	1	85267	0.0	100.0	99
81	1	85266	0.0	100.0	99
80	5	85265	0.0	100.0	99
79	17	85260	0.0	100.0	99
78	18	85243	0.0	100.0	99
77	47	85225	0.1	100.0	99
76	50	85178	0.1	100.0	99
75	24	85128	0.0	99.8	99
74	148	85104	0.2	99.8	99
73	203	84956	0.2	99.6	99
72	302	84753	0.4	99.4	99
71	401	84451	0.5	99.0	99
70	542	84050	0.6	98.6	98
69	724	83508	0.9	97.9	98
68	868	82784	1.0	97.1	97
67	1460	81916	1.7	96.1	95
66	1356	80456	1.6	94.4	94
65	1523	79100	1.8	92.8	92
64	1745	77577	2.1	91.0	90
63	3885	75832	4.6	88.9	87
62	2255	71947	2.6	84.4	83
61	2353	69692	2.8	81.7	80
60	2597	67339	3.1	79.0	77
59	3579	64742	4.2	75.9	74
58	3663	61163	4.3	71.7	70
57	2931	57500	3.4	67.4	66
56	3057	54569	3.6	64.0	62
55	3045	51512	3.6	60.4	59
54	3023	48467	3.6	56.8	55
53	5251	45444	6.2	53.3	50
52	3148	40193	3.7	47.1	45
51	3146	37045	3.7	43.5	42
50	3165	33899	3.7	39.8	38
49	3157	30734	3.7	36.0	34
48	3066	27577	3.6	32.3	31
47	1067	24511	1.3	28.8	28
46	3027	23444	3.6	27.5	26
45	2890	20417	3.4	23.9	22
44	2872	17527	3.4	20.6	19
43	1802	14655	2.1	17.2	16
42	2418	12853	2.8	15.1	14
41	2309	10435	2.7	12.2	11
40	1270	8126	1.5	9.5	9
39	1270	6856	1.5	8.0	7
38	1632	5586	1.9	6.6	6
37	1292	3954	1.5	4.6	4
36	966	2662	1.1	3.1	3

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 5 SOCIAL STUDIES -- 1994
(Continued)

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
35	771	1696	0.9	2.0	2
34	539	925	0.6	1.1	1
33	191	386	0.2	0.5	1
32	115	195	0.1	0.2	1
LESS THAN 32	80	80	0.1	0.1	1

LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 6 SCIENCE -- 1996

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	17,138	High Score	183
		Low Score	130
Mean	154.3	1996 State Percentiles	Scale Score
Standard Deviation	9.0	90	166.4
		75	161.1
		50 (Median)	154.0
Variance	80.2	25	147.3
		10	142.2

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
183	2	17138	0.0	100.0	99
182	6	17136	0.0	100.0	99
180	7	17130	0.0	100.0	99
179	9	17123	0.1	99.9	99
178	14	17114	0.1	99.9	99
177	18	17100	0.1	99.8	99
176	31	17082	0.2	99.7	99
175	48	17051	0.3	99.5	99
174	72	17003	0.4	99.2	99
173	65	16931	0.4	98.8	99
172	145	16866	0.9	98.4	98
171	158	16721	0.9	97.6	97
170	219	16563	1.3	96.6	96
169	238	16344	1.4	95.4	95
168	312	16106	1.8	94.0	93
167	336	15794	2.0	92.2	91
166	384	15458	2.2	90.2	89
165	420	15074	2.5	88.0	87
164	492	14654	2.9	85.5	84
163	488	14162	2.9	82.6	81
162	549	13674	3.2	79.8	78
161	611	13125	3.6	76.6	75
160	416	12514	2.4	73.0	72
159	633	12098	3.7	70.6	69
158	437	11465	2.6	66.9	66
157	674	11028	3.9	64.4	62
156	699	10354	4.1	60.4	58
155	706	9655	4.1	56.3	54
154	712	8949	4.2	52.2	50
153	761	8237	4.4	48.1	46
152	769	7476	4.5	43.6	41
151	779	6707	4.6	39.1	37
150	222	5928	1.3	34.6	34
149	500	5706	2.9	33.3	32
148	739	5206	4.3	30.4	28
147	753	4467	4.4	26.1	24
146	665	3714	3.9	21.7	20
145	196	3049	1.1	17.8	17
144	630	2853	3.7	16.7	15
143	374	2223	2.2	13.0	12
142	525	1849	3.1	10.8	9
141	394	1324	2.3	7.7	7
140	319	930	1.9	5.4	4
139	238	611	1.4	3.6	3
138	153	373	0.9	2.2	2

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 6 SCIENCE -- 1996
(Continued)

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
137	93	220	0.5	1.3	1
136	81	127	0.5	0.7	1
135	39	46	0.2	0.3	1
134	2	7	0.0	0.0	1
133	2	5	0.0	0.0	1
131	2	3	0.0	0.0	1
130	1	1	0.0	0.0	1

LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 6 SOCIAL STUDIES -- 1994

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	85,628	High Score	84
		Low Score	30
Mean	52.0	1994 State Percentiles	Scale Score
Standard Deviation	8.8	90	63.7
		75	58.3
		50 (Median)	51.8
Variance	78.2	25	44.8
		10	39.9

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
84	1	85628	0.0	100.0	99
82	4	85627	0.0	100.0	99
81	7	85623	0.0	100.0	99
80	6	85616	0.0	100.0	99
79	11	85610	0.0	100.0	99
78	28	85599	0.0	100.0	99
77	43	85571	0.1	99.9	99
76	69	85528	0.1	99.9	99
75	122	85459	0.1	99.8	99
74	171	85337	0.2	99.7	99
73	259	85166	0.3	99.5	99
72	306	84907	0.4	99.2	99
71	382	84601	0.5	98.8	99
70	493	84219	0.6	98.4	98
69	563	83726	0.7	97.8	97
68	893	83163	1.0	97.1	97
67	1426	82270	1.7	96.1	95
66	985	80844	1.2	94.4	94
65	1478	79859	1.7	93.3	92
64	1737	78381	2.0	91.5	91
63	2419	76644	2.8	89.5	88
62	1608	74225	1.9	86.7	86
61	2956	72617	3.5	84.8	83
60	2777	69661	3.2	81.4	80
59	2178	66884	2.5	78.1	77
58	3123	64706	3.7	75.6	74
57	3438	61583	4.0	71.9	70
56	3825	58145	4.5	67.9	66
55	2860	54320	3.3	63.4	62
54	3046	51460	3.6	60.1	58
53	3148	48414	3.7	56.5	55
52	3281	45266	3.8	52.9	51
51	3442	41985	4.0	49.0	47
50	3627	38543	4.2	45.0	43
49	3607	34916	4.2	40.8	39
48	1244	31309	1.5	36.6	36
47	2408	30065	2.8	35.1	34
46	3783	27657	4.4	32.3	30
45	3649	23874	4.3	27.9	26
44	3613	20225	4.2	23.6	22
43	3390	16612	4.0	19.4	17
42	2110	13222	2.5	15.4	14
41	877	11112	1.0	13.0	12
40	2697	10235	3.2	12.0	10
39	2843	7538	3.3	8.8	7
38	2157	4695	2.5	5.5	4
37	1026	2538	1.2	3.0	2
36	831	1512	1.0	1.8	1

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 6 SOCIAL STUDIES -- 1994
(Continued)

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
35	324	681	0.4	0.8	1
34	251	357	0.3	0.4	1
33	81	106	0.1	0.1	1
32	11	25	0.0	0.0	1
LESS THAN 32	14	14	0.0	0.0	1

LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 7 SCIENCE -- 1996

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	17,604	High Score	188
		Low Score	135
Mean	157.2	1996 State Percentiles	Scale Score
Standard Deviation	8.8	90	168.8
		75	163.7
		50 (Median)	156.9
Variance	77.0	25	150.3
		10	145.7

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
188	1	17604	0.0	100.0	99
186	3	17603	0.0	100.0	99
185	2	17600	0.0	100.0	99
184	2	17598	0.0	100.0	99
183	10	17596	0.1	100.0	99
182	6	17586	0.0	99.9	99
181	23	17580	0.1	99.9	99
180	12	17557	0.1	99.7	99
179	16	17545	0.1	99.7	99
178	48	17529	0.3	99.6	99
177	80	17481	0.5	99.3	99
176	83	17401	0.5	98.9	99
175	102	17318	0.6	98.4	98
174	159	17216	0.9	97.8	97
173	193	17057	1.1	96.9	96
172	194	16864	1.1	95.8	95
171	271	16670	1.5	94.7	94
170	300	16399	1.7	93.2	92
169	371	16099	2.1	91.5	90
168	514	15728	2.9	89.3	88
167	447	15214	2.5	86.4	85
166	461	14767	2.6	83.9	83
165	685	14306	3.9	81.3	79
164	555	13621	3.2	77.4	76
163	799	13066	4.5	74.2	72
162	591	12267	3.4	69.7	68
161	644	11676	3.7	66.3	64
160	845	11032	4.8	62.7	60
159	656	10187	3.7	57.9	56
158	466	9531	2.7	54.1	53
157	427	9065	2.4	51.5	50
156	675	8638	3.8	49.1	47
155	734	7963	4.2	45.2	43
154	759	7229	4.3	41.1	39
153	741	6470	4.2	36.8	35
152	747	5729	4.2	32.5	30
151	485	4982	2.8	28.3	27
150	497	4497	2.8	25.6	24
149	695	4000	4.0	22.7	21
148	441	3305	2.5	18.8	18
147	658	2864	3.7	16.3	14
146	534	2206	3.0	12.5	11
145	525	1672	3.0	9.5	8
144	289	1147	1.6	6.5	6
143	317	858	1.8	4.9	4
142	206	541	1.2	3.1	

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 7 SCIENCE -- 1996
(Continued)

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
141	185	335	1.1	1.9	1
140	94	150	0.5	0.9	1
139	36	56	0.2	0.3	1
138	9	20	0.1	0.1	1
137	8	11	0.1	0.1	1
136	2	3	0.0	0.0	1
135	1	1	0.0	0.0	1

LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 7 SOCIAL STUDIES -- 1994

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	84,563	High Score	82
Mean	52.0	Low Score	27
Standard Deviation	8.8	1994 State Percentiles	Scale Score
Variance	77.8	90	63.6
		75	58.7
		50 (Median)	52.1
		25	45.2
		10	40.1

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
82	2	84563	0.0	100.0	99
81	3	84561	0.0	100.0	99
80	8	84558	0.0	100.0	99
79	14	84550	0.0	100.0	99
77	31	84536	0.0	100.0	99
76	76	84505	0.1	99.9	99
75	77	84429	0.1	99.8	99
74	166	84352	0.2	99.6	99
73	150	84186	0.2	99.6	99
72	133	84036	0.2	99.4	99
71	350	83903	0.4	99.2	99
70	687	83553	0.8	98.8	98
69	617	82866	0.7	98.0	98
68	789	82249	0.9	97.3	97
67	872	81460	1.0	96.3	96
66	1371	80588	1.6	95.3	94
65	1271	79217	1.5	93.7	93
64	2076	77946	2.5	92.2	91
63	2128	75870	2.5	89.7	88
62	1850	73742	2.2	87.2	86
61	2714	71892	3.2	85.0	83
60	3840	69178	4.5	81.8	80
59	2436	65338	2.9	77.3	76
58	2606	62902	3.1	74.4	73
57	2778	60296	3.3	71.3	70
56	3718	57518	4.4	68.0	66
55	3947	53800	4.7	63.6	61
54	3085	49853	3.7	59.0	57
53	3206	46768	3.8	55.3	53
52	3375	43562	4.0	51.5	50
51	3318	40187	3.9	47.5	46
50	3498	36869	4.1	43.6	42
49	3453	33371	4.1	39.5	37
48	2170	29918	2.6	35.4	34
47	3397	27748	4.0	32.8	31
46	2359	24351	2.8	28.8	27
45	3305	21992	3.9	26.0	24
44	2041	18687	2.4	22.1	21
43	2945	16646	3.5	19.7	18
42	1829	13701	2.2	16.2	15
41	2594	11872	3.1	14.0	13
40	2307	9278	2.7	11.0	10
39	1418	6971	1.7	8.2	7
38	1678	5553	2.0	6.6	6
37	1298	3875	1.5	4.6	4
36	941	2577	1.1	3.1	2
35	778	1636	0.9	1.9	1
34	483	858	0.6	1.0	1
33	187	375	0.2	0.4	1
32	139	188	0.2	0.2	1
LESS THAN 32	49	49	0.1	0.1	1

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LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM

END-OF-GRADE TEST -- GRADE 8 SCIENCE -- 1996

STATE SUMMARY STATISTICS ON SCALE SCORES

Number of Students With Valid Scores	17,330	High Score	187
		Low Score	137
Mean	158.4	1996 State Percentiles	Scale Score
Standard Deviation	9.0	90	170.4
		75	165.4
Variance	81.4	50 (Median)	158.1
		25	151.6
		10	146.3

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
187	3	17330	0.0	100.0	99
186	1	17327	0.0	100.0	99
184	6	17326	0.0	100.0	99
183	7	17320	0.0	99.9	99
182	14	17313	0.1	99.9	99
181	26	17299	0.2	99.8	99
180	29	17273	0.2	99.7	99
179	63	17244	0.4	99.5	99
178	62	17181	0.4	99.1	99
177	76	17119	0.4	98.8	99
176	135	17043	0.8	98.3	98
175	158	16908	0.9	97.6	97
174	191	16750	1.1	96.7	96
173	306	16559	1.8	95.6	95
172	280	16253	1.6	93.8	93
171	330	15973	1.9	92.2	91
170	362	15643	2.1	90.3	89
169	391	15281	2.3	88.2	87
168	598	14890	3.5	85.9	84
167	788	14292	4.6	82.5	80
166	469	13504	2.7	77.9	77
165	523	13035	3.0	75.2	74
164	544	12512	3.1	72.2	71
163	547	11968	3.2	69.1	67
162	784	11421	4.5	65.9	64
161	547	10637	3.2	61.4	60
160	599	10090	3.5	58.2	56
159	583	9491	3.4	54.8	53
158	611	8908	3.5	51.4	50
157	661	8297	3.8	47.9	46
156	699	7636	4.0	44.1	42
155	669	6937	3.9	40.0	38
154	655	6268	3.8	36.2	34
153	681	5613	3.9	32.4	30
152	663	4932	3.8	28.5	27
151	420	4269	2.4	24.6	23
150	432	3849	2.5	22.2	21
149	459	3417	2.7	19.7	18
148	570	2958	3.3	17.1	15
147	545	2388	3.1	13.8	12
146	462	1843	2.7	10.6	9
145	432	1381	2.5	8.0	7
144	316	949	1.8	5.5	5
143	297	633	1.7	3.7	3
142	134	336	0.8	1.9	2

LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 8 SOCIAL STUDIES -- 1994

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	82,674	High Score	84
		Low Score	30
Mean	51.9	1994 State Percentiles	Scale Score
Standard Deviation	8.5	90	63.3
		75	58.0
Variance	72.5	50 (Median)	51.8
		25	45.0
		10	40.5

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
84	1	82674	0.0	100.0	99
83	4	82673	0.0	100.0	99
82	5	82669	0.0	100.0	99
81	3	82664	0.0	100.0	99
80	10	82661	0.0	100.0	99
79	17	82651	0.0	100.0	99
78	8	82634	0.0	100.0	99
77	43	82626	0.1	99.9	99
76	45	82583	0.1	99.9	99
75	96	82538	0.1	99.8	99
74	65	82442	0.1	99.7	99
73	127	82377	0.2	99.6	99
72	196	82250	0.2	99.5	99
71	282	82054	0.3	99.3	99
70	546	81772	0.7	98.9	99
69	526	81226	0.6	98.3	98
68	664	80700	0.8	97.6	97
67	774	80036	0.9	96.8	96
66	921	79262	1.1	95.9	95
65	1822	78341	2.2	94.8	94
64	1828	76519	2.2	92.6	91
63	1542	74691	1.9	90.3	89
62	1706	73149	2.1	88.5	87
61	3242	71443	3.9	86.4	84
60	2768	68201	3.4	82.5	81
59	2245	65433	2.7	79.2	78
58	2426	63188	2.9	76.4	75
57	4430	60762	5.4	73.5	71
56	3684	56332	4.5	68.1	66
55	2974	52648	3.6	63.7	62
54	3000	49674	3.6	60.1	58
53	3161	46674	3.8	56.5	55
52	3279	43513	4.0	52.6	51
51	3372	40234	4.1	48.7	47
50	3558	36862	4.3	44.6	42
49	3705	33304	4.5	40.3	38
48	2274	29599	2.8	35.8	34
47	2364	27325	2.9	33.1	32
46	2605	24961	3.2	30.2	29
45	3605	22356	4.4	27.0	25
44	3449	18751	4.2	22.7	21
43	3251	15302	3.9	18.5	17
42	1841	12051	2.2	14.6	13
41	1845	10210	2.2	12.4	11
40	2315	8365	2.8	10.1	9
39	1802	6050	2.2	7.3	6
38	1497	4248	1.8	5.1	4
37	1041	2751	1.3	3.3	3
36	1044	1710	1.3	2.1	1
35	382	666	0.5	0.8	1
34	142	284	0.2	0.3	1
LESS THAN 34	142	142	0.2	0.2	1

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
END-OF-GRADE TEST -- GRADE 8 SCIENCE -- 1996
(Continued)

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1996 State Percentile
141	118	202	0.7	1.2	1
140	50	84	0.3	0.5	1
139	26	34	0.2	0.2	1
138	7	8	0.0	0.1	1
137	1	1	0.0	0.0	1

LOCAL OPTION TESTING

NORTH CAROLINA TESTING PROGRAM
FRENCH (FORM A) -- 1992

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	863	High Score	39
		Low Score	4
Mean	21.6	1992 State Percentiles	Core Score
Standard Deviation	5.8	90	29
		75	26
		50 (Median)	22
Variance	33.7	25	18
		10	14

FREQUENCY DISTRIBUTION

Core Score	Frequency	Cumulative Frequency	Percent	1992 State Percentile
40	0	859	0.0	99
39	1	859	0.1	99
38	0	858	0.0	99
37	5	858	0.6	99
36	3	853	0.3	99
35	3	850	0.3	98
34	5	847	0.6	98
33	13	842	1.5	98
32	11	829	1.3	96
31	15	818	1.7	95
30	20	803	2.3	93
29	19	783	2.2	91
28	30	764	3.5	89
27	43	734	5.0	85
26	51	691	5.9	80
25	44	640	5.1	74
24	51	596	5.9	69
23	64	545	7.5	63
22	58	481	6.8	56
21	63	423	7.3	49
20	54	360	6.3	42
19	56	306	6.5	35
18	47	250	5.5	29
17	34	203	4.0	24
16	45	169	5.2	20
15	35	124	4.1	14
14	21	89	2.4	10
13	27	68	3.1	8
12	18	41	2.1	5
11	15	23	1.7	3
10	2	8	0.2	1
9	5	6	0.6	1
8	0	1	0.0	1
Less than 7	1	1	0.1	1

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
FRENCH (FORM B) -- 1992

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	840	High Score	39
		Low Score	5
Mean	20.9	1992 State Percentiles	Core Score
Standard Deviation	5.1	90	27
		75	25
		50 (Median)	21
Variance	26.2	25	18
		10	14

FREQUENCY DISTRIBUTION

Core Score	Frequency	Cumulative Frequency	Percent	1992 State Percentile
40	0	840	0.0	99
39	1	840	0.1	99
38	1	839	0.1	99
37	1	838	0.1	99
36	0	837	0.0	99
35	2	837	0.2	99
34	1	835	0.1	99
33	4	834	0.5	99
32	8	830	1.0	99
31	8	822	1.0	98
30	11	814	1.3	97
29	16	803	1.9	96
28	30	787	3.6	94
27	32	757	3.8	90
26	37	725	4.4	86
25	46	688	5.5	82
24	52	642	6.2	76
23	59	590	7.0	70
22	76	531	9.0	63
21	56	455	6.7	54
20	73	399	8.7	48
19	71	326	8.5	39
18	53	255	6.3	30
17	52	202	6.2	24
16	31	150	3.7	18
15	30	119	3.6	14
14	29	89	3.5	11
13	18	60	2.1	7
12	14	42	1.7	5
11	13	28	1.5	3
10	9	15	1.1	2
9	0	6	0.0	1
8	2	6	0.2	1
Less than 7	4	4	0.5	1

LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
SPANISH (FORM A) -- 1992

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	1,260	High Score	40
		Low Score	1
Mean	20.8	1992 State Percentiles	Core Score
Standard Deviation	5.7	90	28
		75	24
		50 (Median)	21
Variance	32.6	25	17
		10	14

FREQUENCY DISTRIBUTION

Core Score	Frequency	Cumulative Frequency	Percent	1992 State Percentile
40	2	1260	0.2	99
39	2	1258	0.2	99
38	1	1256	0.1	99
37	4	1255	0.3	99
36	7	1251	0.6	99
35	2	1244	0.2	99
34	4	1242	0.3	99
33	10	1238	0.8	98
32	11	1228	.9	97
31	16	1217	1.3	97
30	21	1201	1.7	95
29	38	1180	3.0	94
28	43	1142	3.4	91
27	44	1099	3.5	87
26	49	1055	3.9	84
25	60	1006	4.8	80
24	84	946	6.7	75
23	69	862	5.5	68
22	93	793	7.4	63
21	84	700	6.7	56
20	93	616	7.4	49
19	77	523	6.1	42
18	73	446	5.8	35
17	70	373	5.6	30
16	66	303	5.2	24
15	62	237	4.9	19
14	55	175	4.4	14
13	46	120	3.7	10
12	30	74	2.4	6
11	18	44	1.4	3
10	10	26	0.8	2
9	6	16	0.5	1
8	4	10	0.3	1
Less than 7	6	6	0.5	1

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LOCAL OPTION TESTING
NORTH CAROLINA TESTING PROGRAM
SPANISH (FORM B) -- 1992

STATE SUMMARY STATISTICS

Number of Students With Valid Scores	1,152	High Score	39
		Low Score	1
Mean	20.5	1992 State Percentiles	Core Score
Standard Deviation	5.5	90	28
		75	24
		50 (Median)	20
Variance	30.4	25	17
		10	14

FREQUENCY DISTRIBUTION

Core Score	Frequency	Cumulative Frequency	Percent	1992 State Percentile
40	0	1152	0.0	99
39	3	1152	0.3	99
38	1	1149	0.1	99
37	3	1148	0.3	99
36	2	1145	0.2	99
35	6	1143	0.5	99
34	3	1137	0.3	99
33	9	1134	0.8	98
32	9	1125	0.8	98
31	13	1116	1.1	97
30	16	1103	1.4	96
29	27	1087	2.3	94
28	31	1060	2.7	92
27	33	1029	2.9	89
26	45	996	3.9	86
25	55	951	4.8	83
24	68	896	5.9	78
23	81	828	7.0	72
22	59	747	5.1	65
21	69	688	6.0	60
20	101	619	8.8	54
19	73	518	6.3	45
18	88	445	7.6	39
17	80	357	6.9	31
16	68	277	5.9	24
15	47	209	4.1	18
14	54	162	4.7	14
13	39	108	3.4	9
12	28	69	2.4	6
11	17	41	1.5	4
10	13	24	1.1	2
9	4	11	0.3	1
8	2	7	0.2	1
Less than 7	5	5	0.4	0

State-Mandated End-of-Course Tests

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End-of-Course Tests

Historical Information. The North Carolina end-of-course tests were initiated in response to legislation passed by the North Carolina General Assembly — the North Carolina Elementary and Secondary Reform Act of 1984. This act called for the implementation of the Basic Education Program through the establishment of a core curriculum for all students for each content area and the development of tests to assess the implementation of each curriculum across the state. Based on this legislation, the North Carolina end-of-course tests were developed for two purposes:

- To provide accurate measurement of individual student skills and knowledge specified in the North Carolina *Standard Course of Study*, and
- To provide accurate measurement of the knowledge and skills attained by groups of students for school, school system, and state accountability.

End-of-course tests are designed as curriculum-based achievement tests to measure that students know and are able to do within the context of a specific subject-area content. When properly administered and interpreted, these test results provide an independent, uniform source of reliable and valid information, which enables

- Students to know the extent to which they have mastered expected knowledge and skills and how they compare to others;
- Parents to know if their children are acquiring the knowledge and skills needed to succeed in a highly competitive job market;
- Teachers to know if their students have mastered grade-level knowledge and skills in the curriculum and, if not, what weaknesses need to be addressed;
- Community leaders and lawmakers to know if students in North Carolina schools are improving their performance over; and
- Citizens to objectively assess their return on investment in the public schools.

The North Carolina end-of-course tests were developed by the North Carolina Department of Public Instruction with technical support from the L.L. Thurstone Psychometric Laboratory at The University of North Carolina at Chapel Hill and the North Carolina Technical Advisory Group. The tests were developed for use as achievement tests to measure the acquisition of specific subject-area content and skills.

Scores on the end-of-course tests are only one of many indicators of the achievement of students. The value of these tests lies primarily in the fact that the scores provide a common standard that is not influenced by local differences in achievement and expectations. The tests provide yardsticks, which can be used to compare the achievement of students, schools, school systems, and the state. The assessment yardstick can be used to measure gains (or losses) in performance across time to see if educational improvement efforts at the state and local level are working.

High School Subjects Tests (EOC) Scale Scores

- Raw scores are converted to scale scores on the end-of-course tests. Scale scores enable the different forms of the tests to be equated. Developmental scale scores are inappropriate for end-of-course tests because the content taught in each of the courses is discrete.

- Scale scores allow the different forms of the test to be equated, so that a scale score of 50 in Algebra I on Form A represents the same level of achievement as a scale score of 50 on Form B, even though the raw scores may be slightly different.

- The scale scores for all tests were designed to have a mean of 50 and a standard deviation of 10. The range of scale scores is approximately 20 to 90.

- Beginning with 1993-94, scores for Algebra I were reported as scale scores rather than raw scores. In 1994-95, Biology, English I, and U.S. History were reported as scale scores rather than raw scores. In 1995-96 Economic, Legal, and Political Systems (ELP) used scale scores rather than raw scores to report student performance. These scores are not comparable to scores from earlier years when raw scores were used.

Achievement Levels. Achievement levels allow the comparison of student and group performance to standards based on what is expected in each subject at each grade level. Achievement levels were determined by relating the judgments of thousands of North Carolina teachers concerning the performance of each of their students to each student's performance (Contrasting Groups Method) on the end-of-course tests. The four levels are:

Level I: Students performing at this level do not have sufficient mastery of knowledge and skills of the course to be successful at a more advanced level in the content area.

Level II: Students performing at this level demonstrate inconsistent mastery of knowledge and skills of the course and are minimally prepared to be successful at a more advanced level in the content area.

Level III: Students performing at this level consistently demonstrate mastery of the course subject matter and skills and are well prepared for a more advanced level in the content area.

Level IV: Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient in the course subject matter and skills and are very well prepared for a more advanced level in the content area.

Each achievement level corresponds to a range of scale scores for each subject.

Achievement Level Ranges for North Carolina End-of-Course Tests

Test/Year Normed	Level I	Level II	Level III	Level IV
Algebra I/1994	23-44	45-54	55-56	66-87
Algebra II/1997	23-45	46-57	58-68	69-92
Biology/1995	25-46	47-54	55-64	65-89
Chemistry/1997	23-47	48-55	56-64	65-90
ELP/1997	21-42	43-51	52-60	61-90
ELP*/1995	0-29	30-42	43-53	54-67
English I/1995	22-42	43-51	52-60	61-86
English II**	0.0-1.5	2.0-2.5	3.0-3.5	4.0-6.0
Geometry/1997	23-45	46-56	57-66	67-91
Physics/1997	23-42	43-51	52-62	63-87
Physical Science/1997	23-43	44-53	54-63	64-89
US History/1997	27-47	48-56	57-64	65-90

* Achievement level ranges for ELP for 1995-96 and earlier are based on raw scores.
** English II benchmarks were set in the summer of 1997.

NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- ALGEBRA I -- 1994

STATE SCALE SCORE SUMMARY STATISTICS

Number of Students With Valid Scores	69,142	High Score	87
		Low Score	23
Mean	55.1	1994 State Percentiles	Scale Score
Standard Deviation	9.1	90	66.7
		75	61.3
		50 (Median)	55.3
Variance	83.1	25	48.6
		10	42.8

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
87	2	69142	0.0	100.0	99
86	3	69140	0.0	100.0	99
85	5	69137	0.0	100.0	99
84	26	69132	0.0	100.0	99
83	29	69106	0.0	100.0	99
82	49	69077	0.1	99.9	99
81	48	69028	0.1	99.8	99
80	81	68980	0.1	99.8	99
79	81	68899	0.1	99.7	99
78	83	68818	0.1	99.5	99
77	170	68735	0.3	99.4	99
76	199	68565	0.3	99.2	99
75	271	68366	0.4	98.9	99
74	332	68095	0.5	98.5	98
73	389	67763	0.6	98.0	98
72	373	67374	0.5	97.4	97
71	1034	67001	1.5	96.9	96
70	631	65967	0.9	95.4	95
69	842	65336	1.2	94.5	94
68	1303	64494	1.9	93.3	92
67	1132	63191	1.6	91.4	91
66	1935	62059	2.8	89.8	88
65	1064	60124	1.5	87.0	86
64	2227	59060	3.2	85.4	84
63	2580	56833	3.7	82.2	80
62	1819	54253	2.6	78.5	77
61	2518	52434	3.6	75.8	74
60	3246	49916	4.7	72.2	70
59	2231	46670	3.2	67.5	66
58	2941	44439	4.3	64.3	62
57	3697	41498	5.4	60.0	57
56	2537	37801	3.7	54.7	53
55	3166	35264	4.6	51.0	49
54	3165	32098	4.6	46.4	44
53	2609	28933	3.8	41.9	40
52	1919	26324	2.8	35.3	33
50	1750	20697	2.5	29.9	29
49	1759	18947	2.5	27.4	26
48	2949	17188	4.3	24.9	23
47	2199	14239	3.2	20.6	19
46	1554	12040	2.3	17.4	16

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NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- ALGEBRA I -- 1994
(Continued)

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1994 State Percentile
45	1424	10486	2.1	15.2	14
44	1306	9062	1.9	13.1	12
43	1199	7756	1.7	11.2	10
42	1138	6557	1.7	9.5	9
41	1041	5419	1.5	7.8	7
40	970	4378	1.4	6.3	6
39	814	3408	1.2	4.9	4
38	653	2594	0.9	3.8	3
37	556	1941	0.8	2.8	2
36	409	1385	0.6	2.0	2
35	384	976	0.6	1.4	1
34	262	592	0.4	0.9	1
33	119	330	0.2	0.5	1
32	109	211	0.2	0.3	1
LESS THAN 32	102	102	0.2	0.2	1

NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- BIOLOGY -- 1995

STATE SCALE SCORE SUMMARY STATISTICS

Number of Students with Valid Scores	62,470	High Score	85
		Low Score	28
Mean	55.5	1995 State Percentiles	Scale Score
Standard Deviation	8.7	90	66.7
		75	61.7
		50 (Median)	55.9
Variance	75.1	25	49.7
		10	43.8

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1995 State Percentile
85	1	62470	0.0	100.0	99
84	1	62469	0.0	100.0	99
83	3	62468	0.0	100.0	99
82	9	62465	0.0	100.0	99
81	6	62456	0.0	100.0	99
80	25	62450	0.0	100.0	99
79	36	62425	0.1	99.9	99
78	59	62389	0.1	99.9	99
77	70	62330	0.1	99.8	99
76	135	62260	0.2	99.7	99
75	221	62125	0.4	99.5	99
74	214	61904	0.3	99.1	99
73	431	61690	0.7	98.8	98
72	355	61259	0.6	98.1	98
71	748	60904	1.2	97.5	97
70	617	60156	1.0	96.3	96
69	858	59539	1.4	95.3	95
68	1225	58681	2.0	93.9	93
67	1449	57456	2.3	92.0	91
66	1561	56007	2.5	89.7	88
65	1730	54446	2.8	87.2	86
64	1999	52716	3.2	84.4	83
63	2129	50717	3.4	81.2	79
62	2246	48588	3.6	77.8	76
61	2310	46342	3.7	74.2	72
60	2531	44032	4.1	70.5	68
59	3017	41501	4.8	66.4	64
58	2711	38484	4.3	61.6	59
57	2784	35773	4.5	57.3	55
56	2745	32989	4.4	52.8	51
55	2815	30244	4.5	48.4	46
54	2866	27429	4.6	43.9	42
53	2314	24563	3.7	39.3	37
52	1928	22249	3.1	35.6	34
51	2817	20321	4.5	32.5	30
50	2279	17504	3.7	28.0	26
49	1800	15225	2.9	24.4	23
48	1817	13425	2.9	21.5	20
47	1597	11608	2.6	18.6	17
46	1624	10011	2.6	16.0	15
45	1409	8387	2.3	13.4	12

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NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- BIOLOGY -- 1995
(Continued)

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1995 State Percentile
44	1039	6978	1.7	11.2	10
43	975	5939	1.6	9.5	9
42	854	4964	1.4	8.0	7
41	831	4110	1.3	6.6	6
40	702	3279	1.1	5.3	5
39	836	2577	1.3	4.1	3
38	699	1741	1.1	2.8	2
37	324	1042	0.5	1.7	1
36	225	718	0.4	1.2	1
35	268	493	0.4	0.8	1
34	92	225	0.2	0.4	1
33	79	133	0.1	0.2	1
LESS THAN 33	54	54	0.1	0.1	1

STATE

NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
ECONOMIC, LEGAL, AND POLITICAL SYSTEMS --- 1997

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	82,263	HIGH SCORE	85
		LOW SCORE	21
MEAN	53.8	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	9.3	90	65.33
		75	60.45
VARIANCE	86.4	50 (MEDIAN)	54.58
		25	47.70
		10	40.72

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
85	2	82263	0.00	100.00	99
84	1	82261	0.00	100.00	99
83	2	82260	0.00	100.00	99
82	4	82258	0.00	99.99	99
81	10	82254	0.01	99.99	99
80	36	82244	0.04	99.98	99
79	16	82208	0.02	99.93	99
78	38	82192	0.05	99.91	99
77	100	82154	0.12	99.87	99
76	90	82054	0.11	99.75	99
75	174	81964	0.21	99.64	99
74	177	81790	0.22	99.43	99
73	260	81613	0.32	99.21	99
72	409	81353	0.50	98.89	99
71	747	80944	0.91	98.40	98
70	757	80197	0.92	97.49	97
69	697	79440	0.85	96.57	96
68	1466	78743	1.78	95.72	95
67	1270	77277	1.54	93.94	93
66	1669	76007	2.03	92.40	91
65	1807	74338	2.20	90.37	89
64	2308	72531	2.81	88.17	87
63	2566	70223	3.12	85.36	84
62	2717	67657	3.30	82.24	81
61	3079	64940	3.74	78.94	77
60	3040	61861	3.70	75.20	73
59	3259	58821	3.96	71.50	70
58	3620	55562	4.40	67.54	65
57	3457	51942	4.20	63.14	61
56	3538	48485	4.30	58.94	57
55	4137	44947	5.03	54.64	52
54	3357	40810	4.08	49.61	48
53	3268	37453	3.97	45.53	44
52	3489	34185	4.24	41.56	39
51	2543	30696	3.09	37.31	36
50	2714	28153	3.30	34.22	33
49	2679	25439	3.26	30.92	29
48	2747	22760	3.34	27.67	26
47	2212	20013	2.69	24.33	23
46	2170	17801	2.64	21.64	20
45	1646	15631	2.00	19.00	18
44	1640	13985	1.99	17.00	16
43	1450	12345	1.76	15.01	14
42	1721	10895	2.09	13.24	12
41	1210	9174	1.47	11.15	10
40	1028	7964	1.25	9.68	9
39	1187	6936	1.44	8.43	8
38	1355	5749	1.65	6.99	6
37	727	4394	0.88	5.34	5
36	775	3667	0.94	4.46	4
35	754	2892	0.92	3.52	3
34	808	2138	0.98	2.60	2
33	468	1330	0.57	1.62	1
32	304	862	0.37	1.05	1
LESS THAN 32	558	558	0.68	0.68	1

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NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- ENGLISH I -- 1995

STATE SCALE SCORE SUMMARY STATISTICS

Number of Students with Valid Scores	67,739	High Score	84
		Low Score	24
Mean	53.1	1995 State Percentiles	Scale Score
Standard Deviation	8.9	90	64.5
		75	59.4
Variance	79.9	50 (Median)	53.2
		25	47.0
		10	41.3

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1995 State Percentile
84	3	67739	0.0	100.0	99
83	6	67736	0.0	100.0	99
82	4	67730	0.0	100.0	99
81	15	67726	0.0	100.0	99
80	21	67711	0.0	100.0	99
79	17	67690	0.0	99.9	99
78	59	67673	0.1	99.9	99
77	38	67614	0.1	99.8	99
76	65	67576	0.1	99.8	99
75	187	67511	0.3	99.7	99
74	71	67324	0.1	99.4	99
73	274	67253	0.4	99.3	99
72	361	66979	0.5	98.9	99
71	395	66618	0.6	98.4	98
70	553	66223	0.8	97.8	97
69	596	65670	0.9	97.0	97
68	709	65074	1.1	96.1	96
67	1077	64365	1.6	95.0	94
66	1244	63288	1.8	93.4	93
65	1057	62044	1.6	91.6	91
64	1900	60987	2.8	90.0	89
63	1644	59087	2.4	87.2	86
62	1399	57443	2.1	84.8	84
61	2918	56044	4.3	82.7	81
60	2026	53126	3.0	78.4	77
59	2799	51100	4.1	75.4	73
58	2391	48301	3.5	71.3	70
57	2437	45910	3.6	67.8	66
56	3137	43473	4.6	64.2	62
55	2574	40336	3.8	59.6	58
54	3358	37762	5.0	55.8	53
53	2032	34404	3.0	50.8	49
52	4088	32372	6.0	47.8	45
51	2039	28284	3.0	41.8	40
50	2681	26245	4.0	38.7	37
49	3363	23564	5.0	34.8	32
48	1897	20201	2.8	29.8	28
47	2593	18304	3.8	27.0	25
46	1739	15711	2.6	23.2	22
45	2246	13972	3.3	20.6	19
44	1527	11726	2.3	17.3	16
43	1961	10199	2.9	15.1	14

NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- ENGLISH I -- 1995
(Continued)

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1995 State Percentile
42	1265	8238	1.9	12.2	11
41	1176	6973	1.7	10.3	9
40	1053	5797	1.6	8.6	8
39	952	4744	1.4	7.0	6
38	610	3792	0.9	5.6	5
37	763	3182	1.1	4.7	4
36	617	2419	0.9	3.6	3
35	517	1802	0.8	2.7	2
34	389	1285	0.6	1.9	2
33	299	896	0.4	1.3	1
32	252	597	0.4	0.9	1
31	178	345	0.3	0.5	1
30	79	167	0.1	0.3	1
LESS THAN 30	88	88	0.1	0.2	

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NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- US HISTORY -- 1995

STATE SCALE SCORE SUMMARY STATISTICS

Number of Students with Valid Scores	53,157	High Score	85
		Low Score	28
Mean	56.2	1995 State Percentiles	Scale Score
Standard Deviation	8.3	90	66.9
		75	62.2
		50 (Median)	56.4
Variance	69.3	25	50.4
		10	44.9

FREQUENCY DISTRIBUTION

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1995 State Percentile
85	1	53157	0.0	100.0	99
84	9	53156	0.0	100.0	99
83	6	53147	0.0	100.0	99
82	19	53141	0.0	100.0	99
81	18	53122	0.0	99.9	99
80	37	53104	0.1	99.9	99
79	51	53067	0.1	99.8	99
78	58	53016	0.1	99.7	99
77	81	52958	0.2	99.6	99
76	104	52877	0.2	99.5	99
75	260	52773	0.5	99.3	99
74	148	52513	0.3	98.8	99
73	330	52365	0.6	98.5	98
72	319	52035	0.6	97.9	98
71	609	51716	1.2	97.3	97
70	644	51107	1.2	96.1	96
69	855	50463	1.6	94.9	94
68	1052	49608	2.0	93.3	92
67	1106	48556	2.1	91.3	90
66	1308	47450	2.5	89.3	88
65	1430	46142	2.7	86.8	85
64	1847	44712	3.5	84.1	82
63	2309	42865	4.3	80.6	78
62	2158	40556	4.1	76.3	74
61	2024	38398	3.8	72.2	70
60	2493	36374	4.7	68.4	66
59	2542	33881	4.8	63.7	61
58	2302	31339	4.3	59.0	57
57	2298	29037	4.3	54.6	52
56	2315	26739	4.4	50.3	48
55	2472	24424	4.7	46.0	44
54	2301	21952	4.3	41.3	39
53	2367	19651	4.5	37.0	35
52	2338	17284	4.4	32.5	30
51	1514	14946	2.9	28.1	27
50	1904	13432	3.9	25.3	23
49	1588	11528	3.0	21.7	20
48	1462	9940	2.8	18.7	17
47	1367	8478	2.6	16.0	15
46	1025	7111	1.9	13.4	12
45	1235	6086	2.3	11.5	10
44	1091	4851	2.1	9.1	8

NORTH CAROLINA TESTING PROGRAM
END-OF-COURSE TEST -- US HISTORY -- 1995
(Continued)

Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent	1995 State Percentile
43	771	3760	1.5	7.1	6
42	856	2989	1.6	5.6	5
41	541	2133	1.0	4.0	4
40	400	1592	0.8	3.0	3
39	343	1192	0.7	2.2	2
38	353	849	0.7	1.6	1
37	278	496	0.5	0.9	1
36	92	218	0.2	0.4	1
35	70	126	0.1	0.2	1
34	28	56	0.1	0.1	1
33	16	28	0.0	0.1	1
LESS THAN 33	12	12	0.0	0.0	1

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STATE NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
ALGEBRA II --- 1997

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	44,065	HIGH SCORE	86
		LOW SCORE	33
MEAN	58.8	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.5	90	72.77
		75	66.06
VARIANCE	109.6	50 (MEDIAN)	58.95
		25	50.27
		10	44.84

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
88	12	44065	0.03	100.00	99
87	52	44053	0.12	99.97	99
86	93	44001	0.21	99.85	99
85	129	43908	0.29	99.64	99
84	113	43779	0.26	99.35	99
83	109	43666	0.25	99.09	99
82	148	43557	0.34	98.85	99
81	206	43409	0.47	98.51	98
80	292	43203	0.66	98.04	98
79	308	42911	0.70	97.38	97
78	317	42603	0.72	96.68	96
77	390	42286	0.89	95.96	96
76	425	41896	0.96	95.08	95
75	505	41471	1.15	94.11	94
74	712	40966	1.62	92.97	92
73	816	40254	1.85	91.35	90
72	823	39438	1.87	89.50	89
71	700	38615	1.59	87.63	87
70	972	37915	2.21	86.04	85
69	1439	36943	3.27	83.84	82
68	904	35504	2.05	80.57	80
67	957	34600	2.17	78.52	77
66	1362	33643	3.09	76.35	75
65	1422	32281	3.23	73.26	72
64	1644	30859	3.73	70.03	68
63	1272	29215	2.89	66.30	65
62	1311	27943	2.98	63.41	62
61	2307	26632	5.24	60.44	58
60	1473	24325	3.34	55.20	54
59	1499	22852	3.40	51.86	50
58	1623	21353	3.66	48.46	47
57	1053	19740	2.39	44.80	44
56	565	18687	1.28	42.41	42
55	1689	18122	3.83	41.13	39
54	1683	16433	3.82	37.29	35
53	1646	14750	3.74	33.47	32
52	1092	13104	2.48	29.74	28
51	627	12012	1.42	27.26	27
50	1628	11385	3.69	25.84	24
49	1581	9757	3.59	22.14	20
48	1003	8176	2.28	18.55	17
47	512	7173	1.16	16.28	16
46	1433	6661	3.25	15.12	13
45	1236	5228	2.80	11.86	10
44	754	3992	1.71	9.06	8
43	948	3238	2.15	7.35	6
42	700	2290	1.59	5.20	4
41	597	1590	1.35	3.61	3
40	406	993	0.92	2.25	2
39	265	587	0.60	1.33	1
38	186	322	0.42	0.73	1
LESS THAN 38	136	136	0.31	0.31	1

STATE NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
CHEMISTRY --- 1997

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	35,458	HIGH SCORE	88
		LOW SCORE	28
MEAN	56.8	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	8.5	90	67.96
		75	62.80
VARIANCE	72.8	50 (MEDIAN)	56.71
		25	50.93
		10	45.63

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
88	2	35458	0.01	100.00	99
87	1	35456	0.00	99.99	99
86	3	35455	0.01	99.99	99
85	7	35452	0.02	99.98	99
84	2	35445	0.01	99.96	99
83	15	35443	0.04	99.96	99
82	14	35428	0.04	99.92	99
81	37	35414	0.10	99.88	99
80	26	35377	0.07	99.77	99
79	39	35351	0.11	99.70	99
78	95	35312	0.27	99.59	99
77	73	35217	0.21	99.32	99
76	149	35144	0.42	99.11	99
75	191	34995	0.54	98.69	98
74	177	34804	0.50	98.16	98
73	377	34627	1.06	97.66	97
72	288	34250	0.81	96.59	96
71	398	33962	1.12	95.78	95
70	589	33564	1.66	94.66	94
69	676	32975	1.91	93.00	92
68	715	32299	2.02	91.09	90
67	909	31584	2.56	89.07	88
66	699	30675	1.97	86.51	86
65	1116	29976	3.15	84.54	83
64	1272	28860	3.59	81.39	80
63	1428	27588	4.03	77.80	76
62	1511	26160	4.26	73.78	72
61	1037	24649	2.92	69.52	68
60	1493	23612	4.21	66.59	64
59	1577	22119	4.45	62.38	60
58	1621	20542	4.57	57.93	56
57	1501	18921	4.23	53.36	51
56	1870	17420	5.27	49.13	46
55	1516	15550	4.28	43.85	42
54	1515	14034	4.27	39.58	37
53	1898	12519	5.35	35.31	33
52	1130	10621	3.19	29.95	28
51	1102	9491	3.11	26.77	25
50	1020	8389	2.88	23.66	22
49	1051	7369	2.96	20.78	19
48	1237	6318	3.49	17.82	16
47	835	5081	2.35	14.33	13
46	803	4246	2.26	11.97	11
45	450	3443	1.27	9.71	9
44	631	2993	1.78	8.44	8
43	566	2362	1.60	6.66	6
42	421	1796	1.19	5.07	4
41	501	1375	1.41	3.88	3
40	289	874	0.82	2.46	2
39	202	585	0.57	1.65	1
38	178	383	0.50	1.08	1
37	85	205	0.24	0.58	1
36	76	120	0.21	0.34	1
LESS THAN 36	44	44	0.12	0.12	1

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STATE NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
GEOMETRY --- 1997

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	52,736	HIGH SCORE	87
		LOW SCORE	30
MEAN	57.0	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	10.4	90	70.69
		75	64.73
		50 (MEDIAN)	57.20
VARIANCE	107.4	25	49.01
		10	42.60

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
87	4	52736	0.01	100.00	99
86	19	52732	0.04	99.99	99
85	20	52713	0.04	99.96	99
84	42	52693	0.08	99.92	99
83	123	52651	0.23	99.84	99
81	160	52528	0.30	99.61	99
80	207	52368	0.39	99.30	99
79	203	52161	0.38	98.91	99
78	193	51958	0.37	98.52	98
77	254	51765	0.48	98.16	98
76	496	51511	0.94	97.68	97
75	498	51015	0.94	96.74	96
74	536	50517	1.02	95.79	95
73	1053	49981	2.00	94.78	94
72	702	48928	1.33	92.78	92
71	938	48226	1.78	91.45	91
70	810	47288	1.54	89.67	89
69	1508	46478	2.86	88.13	87
68	1243	44970	2.36	85.27	84
67	1296	43727	2.46	82.92	82
66	1727	42431	3.27	80.46	79
65	1490	40704	2.83	77.18	76
64	1928	39214	3 66	74.36	73
63	1160	37286	2.20	70.70	70
62	1969	36126	3.73	68.50	67
61	1684	34157	3.19	64.77	63
60	2128	32473	4.04	61.58	60
59	1899	30345	3.60	57.54	56
58	1373	28446	2.60	53.94	53
57	2349	27073	4.45	51.34	49
56	1921	24724	3.64	46.88	45
55	1467	22803	2.78	43.24	42
54	1495	21336	2.83	40.46	39
53	1434	19841	2.72	37.62	36
52	1542	18407	2.92	34.90	33
51	1497	16865	2.84	31.98	31
50	1458	15368	2.76	29.14	28
49	1488	13910	2.82	26.38	25
48	1510	12422	2.86	23.56	22
47	1478	10912	2.80	20.69	19
46	1540	9434	2.92	17.89	16
45	908	7894	1.72	14.97	14
44	533	6986	1.01	13.25	13
43	1306	6453	2.48	12.24	11
42	1200	5147	2.28	9.76	9
41	1005	3947	1.91	7.48	7
40	876	2942	1.66	5.58	5
39	698	2066	1.32	3.92	3
38	502	1368	0.95	2.59	2
37	370	866	0.70	1.64	1
36	271	496	0.51	0.94	1
35	101	225	0.19	0.43	1
LESS THAN 35	124	124	0.24	0.24	1

STATE NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
PHYSICAL SCIENCE --- 1997

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	59,609	HIGH SCORE	85
		LOW SCORE	25
MEAN	53.7	STATE PERCENTILES	SCALE SCORE
STANDARD DEVIATION	9.4	90	65.81
		75	60.51
VARIANCE	87.9	50 (MEDIAN)	54.12
		25	47.15
		10	40.56

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
85	2	59609	0.00	100.00	99
83	5	59607	0.01	100.00	99
82	17	59602	0.03	99.99	99
81	11	59585	0.02	99.96	99
80	22	59574	0.04	99.94	99
79	51	59552	0.09	99.90	99
78	30	59501	0.05	99.82	99
77	84	59471	0.14	99.77	99
76	127	59387	0.21	99.63	99
75	155	59260	0.26	99.41	99
74	211	59105	0.35	99.15	99
73	275	58894	0.46	98.80	99
72	327	58619	0.55	98.34	98
71	516	58292	0.87	97.79	97
70	631	57776	1.06	96.92	96
69	712	57145	1.19	95.87	95
68	1080	56433	1.81	94.67	94
67	676	55353	1.13	92.86	92
66	1490	54677	2.50	91.73	90
65	1131	53187	1.90	89.23	88
64	1553	52056	2.61	87.33	86
63	2017	50503	3.38	84.72	83
62	1453	48486	2.44	81.34	80
61	2348	47033	3.94	78.90	77
60	2107	44685	3.53	74.96	73
59	2182	42578	3.66	71.43	70
58	2360	40396	3.96	67.77	66
57	2861	38036	4.80	63.81	61
56	1952	35175	3.27	59.01	57
55	2461	33223	4.13	55.73	54
54	2533	30762	4.25	51.61	49
53	2128	28229	3.57	47.36	46
52	2559	26101	4.29	43.79	42
51	1995	23542	3.35	39.49	38
50	1468	21547	2.46	36.15	35
49	2627	20079	4.41	33.68	31
48	2030	17452	3.41	29.28	28
47	1490	15422	2.50	25.87	25
46	1411	13932	2.37	23.37	22
45	1458	12521	2.45	21.01	20
44	1381	11063	2.32	18.56	17
43	1330	9682	2.23	16.24	15
42	1283	8352	2.15	14.01	13
41	1176	7069	1.97	11.86	11
40	1426	5893	2.39	9.89	9
39	911	4467	1.53	7.49	7
38	1094	3556	1.84	5.97	5
37	622	2462	1.04	4.13	4
36	691	1840	1.16	3.09	3
35	358	1149	0.60	1.93	2
34	271	791	0.45	1.33	1
LESS THAN 34	520	520	0.87	0.87	1

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STATE NORTH CAROLINA END-OF-COURSE TESTING PROGRAM
PHYSICS --- 1997

SUMMARY STATISTICS ON SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	10,592	HIGH SCORE	84
		LOW SCORE	25
MEAN	55.9	STATE PERCENTILES	SCALE SCORE
		90	67.52
STANDARD DEVIATION	9.0	75	62.04
		50 (MEDIAN)	56.15
VARIANCE	81.7	25	49.46
		10	44.02

FREQUENCY DISTRIBUTION

SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1997 STATE PERCENTILE
84	5	10592	0.05	100.00	99
82	16	10587	0.15	99.95	99
81	9	10571	0.08	99.80	99
80	9	10562	0.08	99.72	99
79	26	10553	0.25	99.63	99
78	40	10527	0.38	99.39	99
77	36	10487	0.34	99.01	99
76	33	10451	0.31	98.67	99
75	35	10418	0.33	98.36	98
74	66	10383	0.62	98.03	98
73	73	10317	0.69	97.40	97
72	73	10244	0.69	96.71	96
71	128	10171	1.21	96.03	95
70	131	10043	1.24	94.82	94
69	176	9912	1.66	93.58	93
68	208	9736	1.96	91.92	91
67	221	9528	2.09	89.95	89
66	227	9307	2.14	87.87	87
65	307	9080	2.90	85.73	84
64	281	8773	2.65	82.83	82
63	388	8492	3.66	80.17	78
62	351	8104	3.31	76.51	75
61	372	7753	3.51	73.20	71
60	425	7381	4.01	69.68	68
59	549	6956	5.18	65.67	63
58	318	6407	3.00	60.49	59
57	667	6089	6.30	57.49	54
56	355	5422	3.35	51.19	50
55	347	5067	3.28	47.84	46
54	604	4720	5.70	44.56	42
53	421	4116	3.97	38.86	37
52	334	3695	3.15	34.88	33
51	303	3361	2.86	31.73	30
50	397	3058	3.75	28.87	27
49	366	2661	3.46	25.12	23
48	297	2295	2.80	21.67	20
47	361	1998	3.41	18.86	17
46	288	1637	2.72	15.46	14
45	216	1349	2.04	12.74	12
44	154	1133	1.45	10.70	10
43	204	979	1.93	9.24	8
42	156	775	1.47	7.32	7
41	104	619	0.98	5.84	5
40	116	515	1.10	4.86	4
39	111	399	1.05	3.77	3
38	83	288	0.78	2.72	2
37	61	205	0.58	1.94	2
36	52	144	0.49	1.36	1
LESS THAN 36	92	92	0.87	0.87	1

NC High School Comprehensive Test

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North Carolina High School Comprehensive Test

Historical Information. The North Carolina High School Comprehensive Test—Reading Comprehension and Mathematics Applications was approved by the State Board of Education at its March 1997 meeting as a component of the ABCs accountability model for high schools effective with the 1998-99 school year. Because the ABCs of Public Education emphasize performance on the basic skills, the comprehensive test focuses on the assessment of reading and mathematics. This curriculum-based multiple-choice achievement test was developed to measure growth in student achievement in reading and mathematics from grade 8 to grade 10 for the purpose of high school accountability. The test was first administered (piloted) in 1997-98 to all students in grade 10.

The comprehensive test is an end-of-grade curriculum-based multiple-choice achievement test that assesses the reading strand of the English Language Arts competencies and the Mathematics competencies the typical student should have mastered by the end of the tenth grade. The content measured is not course specific. The results of the test can also be used to make norm-referenced interpretations; state norms were established from the 1997-98 test administration.

Reading Comprehension. The North Carolina High School Comprehensive Test—Reading Comprehension assesses a student's ability to read, understand, and critically analyze printed material. It emphasizes (1) the reading strand of the English Language Arts curriculum at grade 10 and (2) the reading that students are expected to achieve by the end of grade 10. The curriculum specifications were officially adopted by the State Board of Education in the *Standard Course of Study* and the *Teacher Handbook.* Reading comprehension is assessed in the same manner as the end-of-grade test of reading comprehension and is similar to the Textual Analysis part of the English I end-of-course test. The authentic reading passages for the test are selected based on several criteria. They must be:

- Interesting to read;
- Complete (have a beginning, middle, and end); and
- Be from sources students might actually read.

By adhering to these criteria in the selection of passages, the passages tend to be longer than those typically found on standardized achievement tests. On each form of the test there are eight passages—three literary, three content-based, and two consumer/human interest.

There are 72 reading comprehension items, and the test administration time is 100 minutes.

Mathematics Applications. The North Carolina High School Comprehensive Test—Mathematics Applications assesses a student's ability to apply mathematical knowledge to solve real-world problems. It measures mathematics competencies that students typically are expected to achieve by the end of grade 10. The curriculum specifications, which form the basis for

this part of the test, were presented to the State Board of Education as part of the North Carolina Mathematics Framework (K-12). The framework consists of the following three competencies and four content strands:

Competencies

- Problem-solving
- Reasoning
- Communication

Content Strands

- Number Sense, Numeration, and Numerical Operations
- Spatial Sense, Measurement, and Geometry
- Patterns, Relationships, and Functions
- Statistics, Probability, and Discrete Mathematics

Mathematics is assessed in the same manner as the mathematics applications part of the end-of-grade test of mathematics, the Algebra I and Geometry end-of-course tests. Students may use formulas (located on the back of the test book), rulers, and protractors when taking the test.

There are 70 mathematics applications items, and the test administration time is 85 minutes.

Reporting Student Performance. Student performance in reading comprehension and mathematics applications is reported using developmental scales like student performance on the end-of-grade tests at grades 3-8. In addition, student scores are reported using percentiles and achievement levels.

Results from the North Carolina High School Comprehensive Test provide information about the average developmental scale scores obtained by all students and specific groups of students. Results from this test also provide information to chart student performance or progress in reading or mathematics over time on a developmental scale that spirals from grade 3 to grade 10 in each area.

In addition, the comprehensive test provides school and school systems with limited curricular information to identify areas of strengths and weaknesses which may be used to compare the performance of a group to the performance of other schools, school systems, and the state.

Achievement Levels. Achievement levels allow for a comparison of student and group performance to standards based on what is expected in each subject at a grade level. Achievement levels were determined by relating the judgement of thousands of North Carolina teachers concerning the performance of each of their student's performance (Contrasting Groups Method) on the NCHSCT. The achievement levels for the NCHSCT were established based on data collected during the 1997-98 pilot administration. The ranges are as follows:

Level I: Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful in the next grade level.

Level II: Students performing at this level demonstrate inconsistent mastery of knowledge and skills that are fundamental in this subject area and that are minimally sufficient to be successful at the next grade level.

Level III: Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level.

Level IV: Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.

Ranges for Achievement Levels (1998)
North Carolina High School Comprehensive Test

Subject/Grade	Level I	Level II	Level III	Level IV
Reading 10	132-150	151-162	163-174	175-201
Mathematics 10	141-159	160-171	172-188	189-226

STATE NORTH CAROLINA HIGH SCHOOL COMPREHENSIVE TEST
READING COMPREHENSION --- 1998

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	73,976	HIGH SCORE	199
		LOW SCORE	132
MEAN	163.3	STATE PERCENTILES	DEV SCALE SCORE
STANDARD DEVIATION	10.2	90	176.35
		75	170.75
VARIANCE	103.1	50 (MEDIAN)	163.76
		25	156.37
		10	149.41

FREQUENCY DISTRIBUTION

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1998 STATE PERCENTILE
199	3	73976	0.00	100.00	99
197	2	73973	0.00	100.00	99
194	14	73971	0.02	99.99	99
192	27	73957	0.04	99.97	99
191	13	73930	0.02	99.94	99
190	32	73917	0.04	99.92	99
189	65	73885	0.09	99.88	99
188	49	73820	0.07	99.79	99
187	97	73771	0.13	99.72	99
186	181	73674	0.24	99.59	99
185	296	73493	0.40	99.35	99
184	437	73197	0.59	98.95	99
183	153	72760	0.21	98.36	98
182	361	72607	0.49	98.15	98
181	678	72246	0.92	97.66	97
180	772	71568	1.04	96.74	96
179	1195	70796	1.62	95.70	95
178	1069	69601	1.45	94.09	93
177	1699	68532	2.30	92.64	91
176	1743	66833	2.36	90.34	89
175	1883	65090	2.55	87.99	87
174	1563	63207	2.11	85.44	84
173	2230	61644	3.01	83.33	82
172	2239	59414	3.03	80.32	79
171	2245	57175	3.03	77.29	76
170	2450	54930	3.31	74.25	73
169	2514	52480	3.40	70.94	69
168	2535	49966	3.43	67.54	66
167	2670	47431	3.61	64.12	62
166	3333	44761	4.51	60.51	58
165	1955	41428	2.64	56.00	55
164	3377	39473	4.56	53.36	51
163	3242	36096	4.38	48.79	47
162	2066	32854	2.79	44.41	43
161	1927	30788	2.60	41.62	40
160	4011	28861	5.42	39.01	36
159	2018	24850	2.73	33.59	32
158	1867	22832	2.52	30.86	30
157	2252	20965	3.04	28.34	27
156	1714	18713	2.32	25.30	24
155	2233	16999	3.02	22.98	22
154	1616	14766	2.18	19.96	19
153	1540	13150	2.08	17.78	17
152	1411	11610	1.91	15.69	15
151	1399	10199	1.89	13.79	13
150	1297	8800	1.75	11.90	11
149	1213	7503	1.64	10.14	9
148	744	6290	1.01	8.50	8
147	1118	5546	1.51	7.50	7
146	358	4428	0.48	5.99	6
145	944	4070	1.28	5.50	5
144	810	3126	1.09	4.23	4
143	630	2316	0.85	3.13	3
142	543	1686	0.73	2.28	2
141	462	1143	0.62	1.55	1
LESS THAN 141	681	681	0.92	0.92	1

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STATE NORTH CAROLINA HIGH SCHOOL COMPREHENSIVE TEST

MATHEMATICS APPLICATIONS --- 1998

SUMMARY STATISTICS ON DEVELOPMENTAL SCALE SCORES

NUMBER OF STUDENTS WITH VALID SCORES	73,635	HIGH SCORE	224
		LOW SCORE	141
MEAN	174.3	STATE PERCENTILES	DEV SCALE SCORE
STANDARD DEVIATION	13.5	90	192.99
		75	183.42
		50 (MEDIAN)	173.20
VARIANCE	182.5	25	163.48
		10	157.10

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1998 STATE PERCENTILE
224	3	73635	0.00	100.00	99
223	6	73632	0.01	100.00	99
221	20	73626	0.03	99.99	99
220	11	73606	0.01	99.96	99
218	27	73595	0.04	99.95	99
217	16	73568	0.02	99.91	99
216	54	73552	0.07	99.89	99
215	24	73498	0.03	99.81	99
214	57	73474	0.08	99.78	99
213	35	73417	0.05	99.70	99
212	73	73382	0.10	99.66	99
211	44	73309	0.06	99.56	99
210	100	73265	0.14	99.50	99
209	59	73165	0.08	99.36	99
208	114	73106	0.15	99.28	99
207	243	72992	0.33	99.13	99
206	198	72749	0.27	98.80	99
205	213	72551	0.29	98.53	98
204	228	72338	0.31	98.24	98
203	259	72110	0.35	97.93	98
202	395	71851	0.54	97.58	97
201	413	71456	0.56	97.04	97
200	510	71043	0.69	96.48	96
199	524	70533	0.71	95.79	95
198	350	70009	0.48	95.08	95
197	591	69659	0.80	94.60	94
196	672	69068	0.91	93.80	93
195	975	68396	1.32	92.89	92
194	730	67421	0.99	91.56	91
193	821	66691	1.11	90.57	90
192	845	65870	1.15	89.45	89
191	928	65025	1.26	88.31	88
190	1290	64097	1.75	87.05	86
189	987	62807	1.34	85.30	85
188	1437	61820	1.95	83.95	83
187	1159	60383	1.57	82.00	81
186	1206	59224	1.64	80.43	80
185	1304	58018	1.77	78.79	78
184	1364	56714	1.85	77.02	76
183	1524	55350	2.07	75.17	74
182	1583	53826	2.15	73.10	72
181	2156	52243	2.93	70.95	70
180	1729	50087	2.35	68.02	67
179	1855	48358	2.52	65.67	64
178	1973	46503	2.68	63.15	62
177	2028	44530	2.75	60.47	59
176	2162	42502	2.94	57.72	56
175	1552	40340	2.11	54.78	54
174	1510	38788	2.05	52.68	52
173	1558	37278	2.12	50.63	50
172	2496	35720	3.39	48.51	47
171	2612	33224	3.55	45.12	43
170	1831	30612	2.49	41.57	40
169	930	28781	1.26	39.09	38
168	2844	27851	3.86	37.82	36

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STATE

NORTH CAROLINA HIGH SCHOOL COMPREHENSIVE TEST

MATHEMATICS APPLICATIONS --- 1998

FREQUENCY DISTRIBUTION (CONTINUED)

DEVELOPMENTAL SCALE SCORE	FREQUENCY	CUMULATIVE FREQUENCY	PERCENT	CUMULATIVE PERCENT	1998 STATE PERCENTILE
167	1813	25007	2.46	33.96	33
166	992	23194	1.35	31.50	31
165	2880	22202	3.91	30.15	28
164	875	19322	1.19	26.24	26
163	1930	18447	2.62	25.05	24
162	2834	16517	3.85	22.43	21
161	909	13683	1.23	18.58	18
160	1791	12774	2.43	17.35	16
159	2306	10983	3.13	14.92	13
158	738	8677	1.00	11.78	11
157	1428	7939	1.94	10.78	10
156	1799	6511	2.44	8.84	8
155	1077	4712	1.46	6.40	6
154	829	3635	1.13	4.94	4
153	684	2806	0.93	3.81	3
152	813	2122	1.10	2.88	2
151	506	1309	0.69	1.78	1
150	288	803	0.39	1.09	1
LESS THAN 150	515	515	0.70	0.70	1

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Using Test Scores for Student Decisions

There is a natural desire to want to use numbers as if they were absolutely precise when making decisions. However, common experiences teach that most measurements vary a little in their precision. A carpenter's ruler may not be as accurate as a scientist's, bathroom scales may not be as accurate as those in a doctor's office, and speedometers in cars may show speeds that vary from those captured on a radar gun. Decisions can be and are made from both levels of precision.

Individuals often use their knowledge of accuracy when making the final decision. For example, the carpenter may use lumber that has been cut just a bit short but reject other cuts because of the intended use of the wood. The doctor may not make a decision about a patient using just one precise measurement but may prefer to use a pattern of weight measurements from two scales before suggesting a course of treatment. The police officer may not ticket a speeding offender driving within a few miles per hour of the posted speed limit because he or she recognizes the potential for a difference in precision.

Making decisions about students has similar problems, with the additional complexity of the measurement of human characteristics such as academic achievement or aptitude. Clearly, it is easier to measure speed, weight, or length than intelligence or achievement. Teachers who work with students approximately 180 days each year can only assign grades into perhaps five broad categories of achievement (such as A, B, C, D, or F). They also know that achievement may vary from day to day for a given student. One day a student may respond in a consistent "well above average" fashion while the very next day he or she may give average or just above average responses. When it comes to a decision that has more important consequences than reporting to parents about progress in school, such as failure in a grade or admission to a special program, teachers are often uncomfortable depending on their own judgment alone. Most prefer to use additional independent judgments or results from standardized tests to confirm these major decisions.

Multiple-choice tests are more reliable than any single teacher's test, but they are not perfect instruments. Just as speedometers, scales, and rulers have variation in their measurement accuracy, test scores vary due to characteristics of the specific test items and the differences in student performance that occur on a daily basis. In order to help ensure that all students meet a standard of performance, citizens and educators sometimes feel a need to use a single objective score from a standardized test to make important decisions about students. It is inappropriate to place so much weight on a single administration of a single instrument, which takes such a short time to administer. The NC *Testing Code of Ethics*, guidelines adopted by the State Board of Education, has helped many educators make more appropriate interpretations of test scores. Two items under Reporting are illustrative:

- Individual test scores are best presented as approximations and not as absolutes. It is preferable to report results as a limited score range rather than distinct points.

- Test scores are to be presented as one source of information about a student or group of students and should not be used alone for placement, referral, and other consequential decisions on the education of a student.

These guidelines are consistent with *Standards for Educational and Psychological Testing* developed nationally by the American Psychological Association, the American Educational Research Association, and the National Council on Measurement in Education.

For more information on the psychometric characteristics (e.g., standard error of measurement) of tests developed by The NCDPI, refer to the following documents:

- *North Carolina End-of-Grade Tests, Technical Report #1* (NCDPI, 1996),
- *North Carolina End-of-Course Tests, Technical Report #1* (NCDPI, 1996), and
- *North Carolina Tests of Writing, Technical Report #1* (NCDPI, 1996).

Examples of Appropriate Uses

The process for identifying students for special programs in North Carolina follows guidelines in the NC *Testing Code of Ethics* by using a combination of teacher recommendations, standardized tests, and past performance.

- The state standard for a **Competency Test** in a given area, which was also set using a combination of information, is currently based on one test. However, the student has repeated opportunities to take the test before the decision to withhold graduation with a diploma is made.

- Similarly, **Grade-Level Proficiency Guidelines** identify students on a standard set by teachers and translated to a test score. Under these guidelines, local policy and discretion determine promotion and retention decisions which take into account the student's test score and other information which may indicate a student's level of achievement in a grade.

Conclusion

When making decisions that impact students, the best plan is one which incorporates a combination of information about the student. The plan should ask for repeated demonstrations of the weaknesses or excellence of the student in the particular area. This conservative approach more nearly matches that used by the carpenter, doctor, or police officer. It takes into account variation in measurement and checks for patterns that provide keys for any important decision.

Glossary of Testing and Other Statistical Terms

Achievement Levels. Predetermined levels of achievement that relate the judgment of North Carolina teachers to the actual student performance on North Carolina tests. The achievement levels allow for the comparison of student and group performance to establish standards based on what is expected in a subject area at each grade level. Achievement levels used for North Carolina were set using the Contrasting Groups Method of performance standard setting.

Achievement Test. A test that measures the extent to which a person has "achieved" something, acquired certain information, or mastered certain standardized sets of skills - usually as a result of planned instruction or training.

Criterion-Referenced Test. A test that is designed to provide information on the specific knowledge or skills possessed by a student. Such tests usually cover relatively small units and are related to instruction. Performance is measured in reference to mastery of particular skills. Scores from these tests have meaning in terms of *what* the student knows or can do, rather than in their relation to the scores made by some external reference or norm group.

Curriculum-Based Test. A test that is designed to measure student performance in reference to goals and competencies specifically defined in a curriculum.

Developmental Scale Scores. Developmental scales are similar to rulers that allow growth in a subject to be measured across time. Developmental scale scores are intended to be interpreted much like height in inches. As is the case for growth in height, we expect an annual increase in scale scores, but not the same increase for each year. The rate of growth is a bit faster in the earlier grades than in the later grades. A developmental scale score in end-of-grade reading should not be compared to a developmental scale score in end-of-grade mathematics.

Diagnostic Test. A test that is used to diagnose, analyze or locate an individual's specific areas of weakness and/or strength to determine the nature of the weaknesses or deficiencies and, where possible, to suggest the cause. Diagnostic tests are most commonly prepared for the skill subjects.

End-of-Course Tests. Curriculum-based accountability assessments used to measure student achievement in specific high school courses.

End-of-Grade Tests. Achievement tests that provide information about the overall proficiency of students in specific content areas at the end of a grade. They measure how much a student has grown educationally in a year and whether or not groups of students are performing according to grade level expectations. These tests are curriculum-based accountability tests and scores are presented as developmental scale scores. The tests provide limited information about the

strengths and weaknesses of individual students in specific skill areas.

Focused Holistic Score. Used in assessments, which evaluate the writing skills of students in grades 4, 7, and English II (grade 10). Student compositions are assigned a score that reflects a trained reader's general impression of each composition's quality. The reader focuses on the set of prescribed composition characteristics (main idea, supporting details, coherence, and organization) and assigns a score based on the level of facility that the writer demonstrates.

Frequency. The number of objects, individuals, or events in a category. For example, the number of students enrolled in an elementary school or in an Algebra I course; the number of students in each grade level; and the number of students in third grade who scored 150 on their reading test.

Frequency Distribution. The number of objects, individuals, or events in each category of a variable. For example, the number of third-grade students in Xavier Elementary School scoring at each score point on the reading EOG test.

Gain. Gain is computed as the difference between the average student test scores in the grade, group or subject in Year 1 and the average test scores of the same grade, group or subject in Year 2. For example, the difference between grade 3 reading scores in 1993 and grade 3 reading scores in 1994; or the difference between Algebra I test scores in 1994 and Algebra I test scores in 1995.

Growth. The cohort difference in test score achievement across grades/years. Growth is computed as the difference between the test scores (developmental scale scores) of a group in Year 1 and the test scores of the same group in Year 2. For example, grade 3 mathematics test scores in 1993 and grade 4 mathematics test scores in 1994.

Mean, Median, Mode. Measures of central tendency. The mean (or average) is the sum of the scores divided by the total number of scores. The median is the middle score in an ordered distribution of scores. The mode is the most frequently occurring score in the distribution. The mean is generally the best measure of central tendency when scores are normally distributed.

Mean Percent Correct. The average of the percentage of test questions students answered correctly.

N or Number. The number of students with valid test scores on a specific test, which may also be referred to as "N-counts."

Normal Curve Equivalents (NCEs). The normal curve equivalent (NCE) scale ranges from 1 to 99. NCEs have many of the same characteristics as percentile ranks but have the additional advantage of being based on an equal-interval scale. That is, the difference between two successive scores on the scale has the same meaning throughout the scale.

Norm-Referenced Test. A test that measures performance in relation to a comparison group.

Norming Year. The first year a test is administered; used for baseline comparative purposes. Percentile scores

are computed based on the state distribution of scores from the norming year.

Percentiles. A percentile indicates the percentage of scores that fall below a given score. A commonly used percentile is the median, which is the 50th percentile. For example, a score at the 55th percentile means that the score is higher than the score achieved by 55 percent of all students taking the test in the year the test was normed. A score at the 55th percentile *does not* mean 55% of the questions were answered correctly.

Percentile Ranks. The percentile rank of a score is the percentage of scores less than or equal to that score. For example, the percentile rank of 63 is the percentage of scores in the distribution that falls at or below a score of 63. In Algebra I, the percentile rank of a score of 63 is 80. The percentile rank is a point on the percentile scale, whereas a percentile is a score, a point on the original measurement scale. Percentile ranks of scores can be compared across two or more distributions; percentiles cannot be used to determine differences in relative rank due to the fact that the interval between adjacent percentiles do not necessarily represent equal raw or scale score intervals.

Range. A measure of variability. The range is the difference between the highest and lowest scores in the distribution.

Raw Score. The number of test questions a student answers correctly.

Scale Scores. Scores that express how far a given *raw* score (number correct) is from a reference point, usually the mean score. Scale scores are units of an equal-interval scale. The difference between two successive scores on the scale has the same meaning throughout the scale. The advantage of scale scores is that they allow an individual's performance to be compared on several different tests, regardless of the raw score scales.

Standard Deviation. A measure of variability; an indication of how much variation there is in the scores, i.e., how close together or how spread out the scores are. The standard deviation measures the extent to which scores or events in a distribution, on the average, deviate from the mean. The standard deviation is the square root of the variance.

For example: SAT Verbal Scores are reported as scale scores. The scores range from 200 to 800. The mean is 500. To determine the standard deviation of normally distributed scores, divide the range of scores by 6 (600/6=100).

Statistical significance = 1/4 of a standard deviation (100/4=25). Using the SAT example, a score of 485 is within 25 points of the mean. In a statistical context, this score is not significantly different from the mean.

Educational significance = 1/3 of a standard deviation (100/3=33.3). Using the SAT example, a score of 465 is not within 33 points of the mean. In an educational context, this score is not significantly different from the mean score.

Reliability. The extent to which a test is consistent in measuring whatever it purports to measure; an indication of

dependability, stability, trustworthiness, and relative freedom from errors of measurement. Reliability is usually expressed as a *reliability coefficient* or by the standard error of measurement derived from it.

Standard Error of Measurement. As applied to a single obtained score, the amount by which the score may differ from the hypothetical true score due to errors of measurement. The larger the standard error of measurement, the less reliable the score. In about two-thirds of the scores in a group, the obtained score will not differ by more than one standard error measurement from the true score.

Standardized Test. A test designed to provide a systematic sample of individual performance, administered according to prescribed directions, scored in conformance with definite rules, and interpreted in reference to certain normative information.

Test Item Banks and Testlets. Item banks are pools of items available electronically and from which teachers can select items for use in the classroom. Test item banks are designed to match the curriculum goals and objectives which allows the teacher to assess achievement/mastery immediately after instruction. Item banks can be used to generate tests to diagnose student strengths and weaknesses.

Testlets are a resource developed by NCDPI for teachers and administrators to operationalize and implement the revised North Carolina *Standard Course of Study*. Testlets are mini-tests that measure specific areas of the curriculum. The same items are found in test item banks developed by NCDPI and found in the testlets.

Validity. The extent to which a test measures that which it purports to measure. All procedures for determining test validity are concerned with the relationships between performance on the test and other independently observable facts. There is content-related validity, criterion-related validity, construct-related validity, and predictive validity.

Variance. A measure of variability derived by subtracting the mean test score from each student's test score, squaring the difference, summing the squares, and dividing by the number of students. If the variance is small, the scores are close together; if the variance is large, the scores are more spread out.